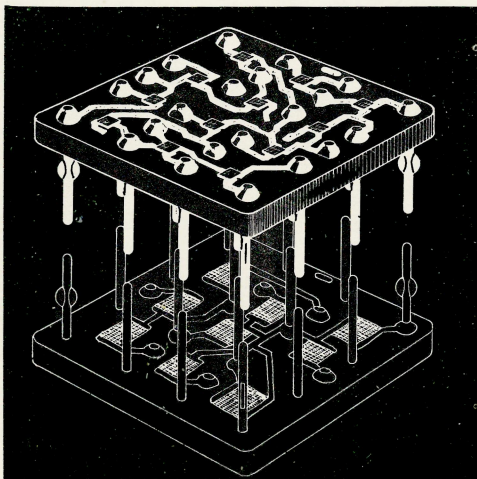


SLT/SLD Module Data

IBM





SLT - SLD

Reference Book

INTRODUCTION

This pocket sized book has been published with the cooperation of Technology Information Center, Department 424 and Current Products, Department 121. It was conceived as an aid to circuit design engineers when condensed module and circuit information is desired. It is to be used for reference only. Detail design information must be obtained from the Latest Engineering Change Level of the individual specifications.

To obtain additional copies of this book, complete form M30-2526-0 and forward to:

IBM
Technology Information Center
Department 424 B/545-66
East Fishkill Facility, Route 52
Hopewell Junction, N. Y. 12533

Questions pertaining to contents should be addressed to:

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No. 121 B/320-32
East Fishkill Facility, Route 52
Hopewell Junction, N. Y. 12533

Be reminded, when not in use this book should be under cover.

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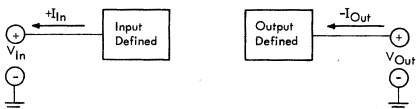
SLT - 5rs	(AOI ₁₁ Family)	Pages 5 to 12
361408	AOI 11	
361409	AOX 11	
361410	AOI 11T	
361412	AOI 11B	
361413	AOI 11BT	
361414	FDD 11	
361447	FTX 11	

SLT - 10rs	(AOI ₁₀ Family)	Pages 13 to 24
361404	AOI 10T	
361405	AOX 10T	
361406	AOI 10B	
361407	AOI 10BT	
361468	AOI 10	
361469	AOX 10	
361482	FDD 10	

SLT - 30rs	(AOI ₃₀ Family)	Pages 25 to 66
361426	ID 40 MA	
361427	TLR 2	
361429	FTX 12V	
361431	ESD	
361433	FTX 8WX	
361435	MGTR	
361438	FTX EB 6	
361451	AI	
361453	AOI	
361454	DCI	
361455	AOX	
361456	AOXB	
361457	FTX 9V	
361459	FDD 30	
361473	API 3V	
361475	HPD	
361476	LSA	
361477	XOR	
361479	II	
361480	ID	
361481	FDD HV8	
361485	FDD 60/75	
361486	XORL	

SLT - 700ns	(AOI ₇₀₀ Family)	Pages
		67 to 90
361415	TLR	
361436	LST	
361445	2-2AOI	
361446	TLRB	
361489	AOX 2	
361492	API/AOI	
361493	AI/AOI	
361494	II/DCI	
361495	AOX ₁	
361496	AOPX ₁	
361497	FTX	
361499	FDD	
SLD - 30		Pages
		91 to 124
361448	3A-3OI	
361449	4II/DCI	
361450	2-4 Way AI	
361594	3-XOR	
361595	3-3 Way AI	
361596	2A-5OI	
361597	2-3A/2-2A-OI	
361598	2AOI-HPD	
2395143	MST-1 to SLD	
23995112	3-3 Way A(O)I (2-Load)	
23995113	3-3 Way AI (No Load)	
2551658	CONVERTER	
2395148	3-3 Way API	
SLD - 100ns		Pages
		125 to 144
361440	2-5 Way-AI	
361441	3-3A/1A-2OR inverter	
361442	4II/DCI-II	
361443	3-3 Way-AI	
361444	AOX 3	
361452	2x3 Way AOI-II	
361458	Trigger	
2395140	4-2 Way API	
SLD - 700ns		Pages
		145 to 165
361416	2-5 Way-AI	
361417	3-3A/1A-2OR inverter	
361418	4II/DCI-II	
361419	3-3 Way-AI	
361420	AOX 3	
361421	Trigger	
361422	2x3 Way AOI-II	
361490	TLR	

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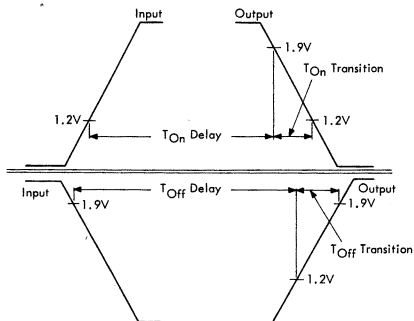


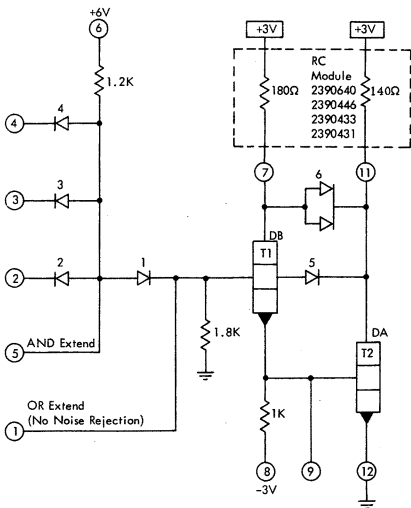
Any Current into a Module from Either Input or Output Terminals is Considered a Negative Flow

Device Information

Transistors		Diodes	
Type	Part No.	Type	Part No.
DA	2393105	DA	5323877
DB	2393106	DB	5323878
DC	2393107	DB-1	2393239
		DC	5323879
		DD	5323880
		B-8	5323823

Power Supply at the Circuit $\pm 4\%$





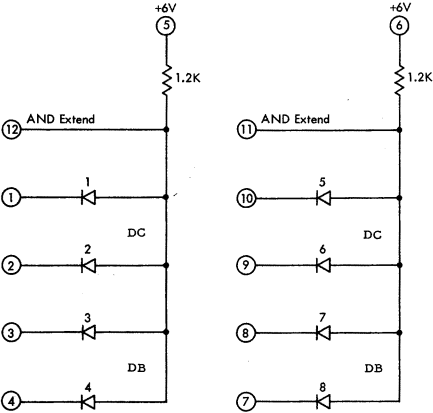
Reference Flyers 872081

U03AU, U03AV, U03AW, U03AX, U03AY,
 U03AZ, U03CA, U61AB, U61AC, U03AI,
 U03AJ, U03AK, U03AL, U03AM, U01AB

T_{OnD} at 25°C
 16.3ns

T_{OffD} at 55°C
 7.6ns

Average Power
 Dissipation Max
 72.8mw



IBM Eng Spec 872081

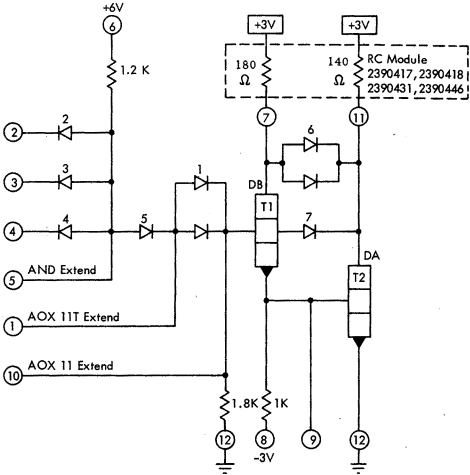
Power	
Requirements	Dissipation
7.4mA	36.8mw
-	-

Input Up

All Values/Module

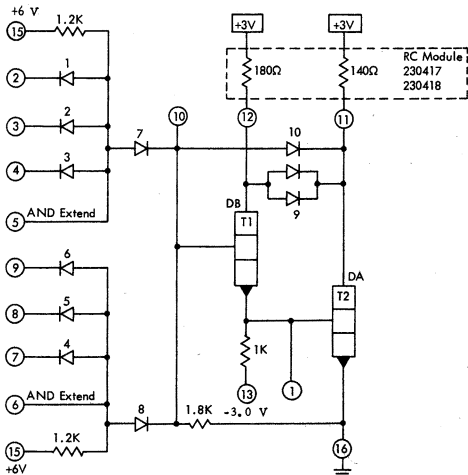
Input Down

Power	
Requirements	Dissipation
9.2mA	53.6
-	-



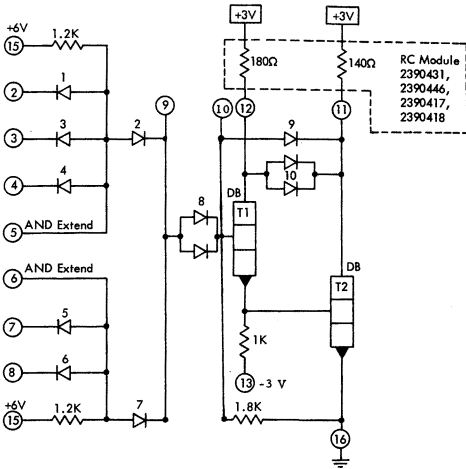
Reference Flyers Same as Part No. 361408

Input Requirements			Output Specifications		
Max Up	+3.12V		Max Up	+3.12V	Max I _{Load} 43.5mA at +0.52V
Min Up - 25C°	+2.57V		Min Up - 25C°	+2.73V	
Min Up - 50C°	+2.48		Min Up - 50C°	+2.73V	
	Max Down - 25C°	+1.62V		Max Down - 25C°	+0.996V
	Max Down - 55C°	+1.44V		Max Down - 50C°	+0.945V
	Min Down	+0.398		Min Down	+0.466V

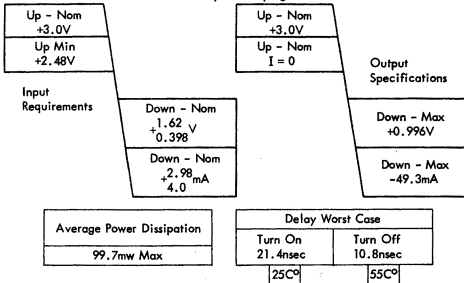


Reference Flyer Grouping U03VF

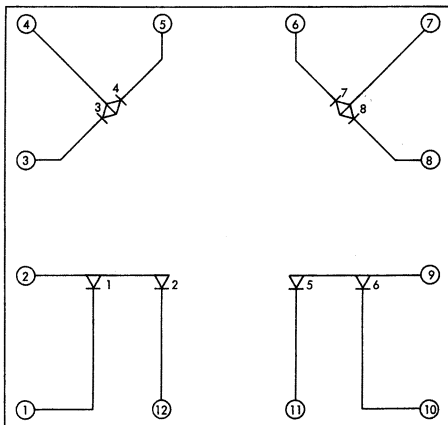
Max Up +3.12V	Max Up +3.12	Output Specifications	
Min Up +2.63V	Min Up +2.63		
Input Requirements	Max Down +0.40V	Max Down +0.40V	
	-	-	
Average Power Dissipation (mw)		Delay Worst Case	
101.9 Max		Turn On 16.3ns 25C°	Turn Off 7.65ns 55C°



Reference Flyer Grouping U03AV

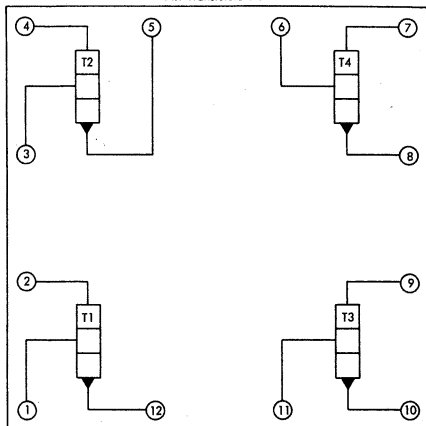


All Diodes DC

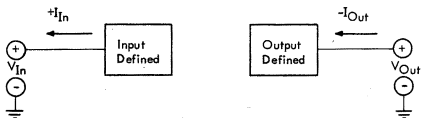


Test	Conditions	C°	Limits	
			Min	Max
Reverse Recovery	$I_F = 3.0\text{mA}$	25		0.24V
Forward Recovery	$I_F = 2.0\text{mA}$	25		0.80V
V_F	$I_F = 0.1\text{mA}$	75	0.455V	
V_F	$I_F = 1.0\text{mA}$	75	0.575V	
V_F	$I_F = 3.0\text{mA}$	25		0.80V
V_{BR}	$I_R = 5.0\mu\text{A}$	25	4.5V	
Cap	Bias = 0.0 V f = 1mc (± 5) VAC = 50mV P to P	25		2.5pF
Temp Coef	$I_F = 0.1\text{mA}$	25/75		2.2mV/C°

All Transistors DC



Test	Condition	C°	Limits	
			Min	Max
BV _{ceo}	I _c =5.0mA	25	4.50V	
BV _{ebo}	I _e =10μA	25	2.0V	
I _{cbo}	V _{cb} =5.0V	75		1.0μA
I _{cex}	V _{ce} =6V V _{be} =0.275V	75		100.0μA
HFE-1	I _e =7.5mA V _{cb} =0	25	28	
HFE-2	I _e =64.0mA V _{cb} =0	25	20	
V _{eb} 1	I _e =1.0mA V _{cb} =0	75	0.54V	
C _{ob}	V _{cb} =0 I _e =0 f=10mc 50mV P P	25		6.0pF



Device Information
Transistor

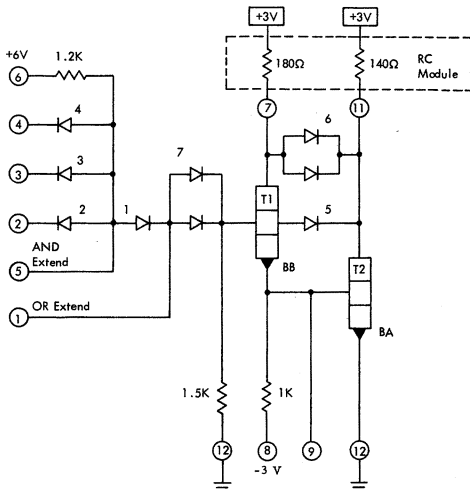
BA	5323876
BB	5323875

Diodes

DDG	2393413
B-8	5323823
B-9	5323909
AXL	2393092
B-19	2393091
CS	2393084

Power Supply at Circuit Pins $\pm 4\%$

All SLT-10 Module Resistor Values = $+5\%/-6\%$ E.O.L.



Reference Flyers V03CI

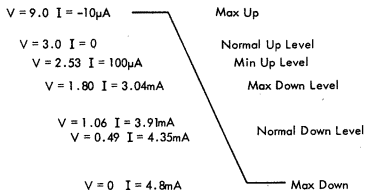
U03AA 873148
 U03AP 873189
 U03AQ 873190
 U03AR 873191
 U03AS 873192

U03AT 872193
 U03CM 873196
 U61AB 873201
 U03CU 873199
 U03CT 873198

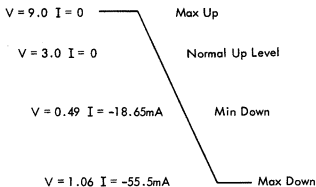
U03CN

873197

Input Requirements



Output Specifications



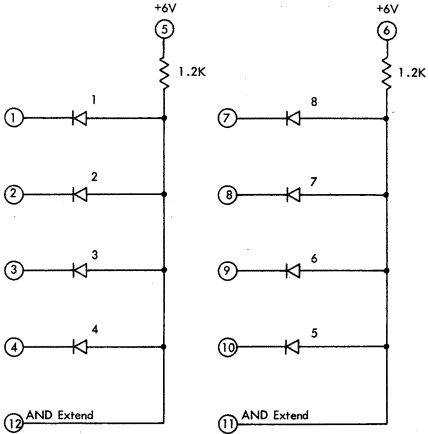
IBM Engineering Specification No. 873437

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
55	22.8	5.9

Average
Power Dissipation
Per Circuit mw

Nom	Max
69.12	76.78



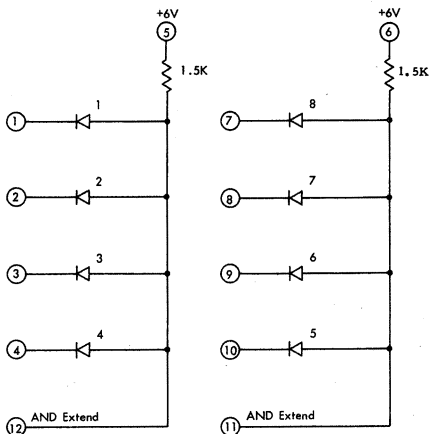
ALL B-9

Power	
Requirements	Dissipation
3.08 mA/Ckt	12.97 mW/Ckt
6.16 mA/Mod	25.94 mW/Mod

Input Up

Power	
Requirements	Dissipation
4.42 mA/Ckt	25.42 mW/Ckt
8.84 mA/Mod	50.84 mW/Mod

Input Down



IBM Engineering Spec. 873413

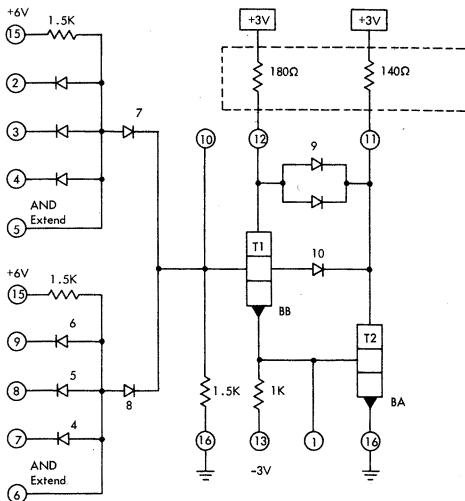
All Diodes B-8

Power	
Requirements	Dissipation
2.93 mA/Ckt	14.29 mW/Ckt
5.86 mA/Mod	28.58 mW/Mod

Input Up

Input Down

Power	
Requirements	Dissipation
3.54 mA/Ckt	20.41 mW/Ckt
7.08 mA/Mod	40.82 mW/Mod

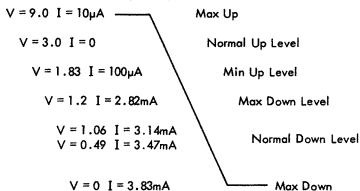


U03VD Reference Flyers - U03VC

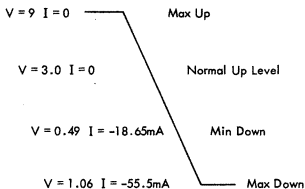
U03AA 873184
 U03AC 873185
 U03AD 873186
 U03AE 873187
 U03AF 873188

U03CK 873194
 U03CL 873195
 U03VG
 U61AB
 U03VH

Input Requirements



Output Specifications



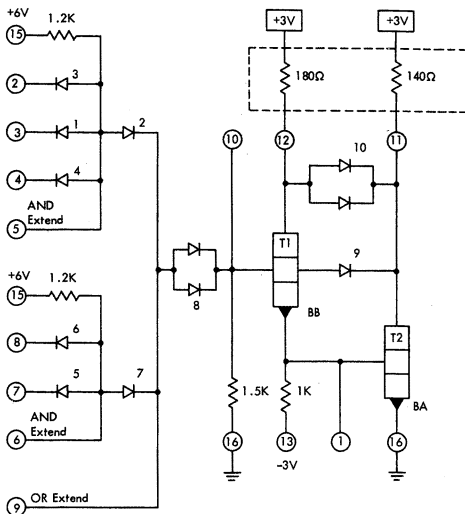
IBM Engineering Specification 873413

Delays (Worst Case)
Nano Seconds

Temp C	Ton Delay	Toff Delay
55	13	9.5

Average
Power Dissipation
Per Circuit mWNot Including External
RC Module →

Nom	Max
87.35	108.05



Reference Flyers

Input Requirements

$V = 9.0$ $I = 10\mu A$	Max Up
$V = 3.0$ $I = 0$	Normal Up Level
$V = 2.53$ $I = 100\mu A$	Min Up Level
$V = 1.80$ $I = 3.04mA$	Max Down Level
$V = 1.06$ $I = 3.91mA$	Normal Down Level
$V = 0.49$ $I = 4.35mA$	
$V = 0$ $I = 4.83mA$	Max Down

Output Specifications

$V = 9.0$ $I = 0$	Max Up
$V = 3.0$ $I = 0$	Normal Up Level
$V = 0.49$ $I = -18.65mA$	Min Down
$V = 1.06$ $I = -55.5mA$	Max Down

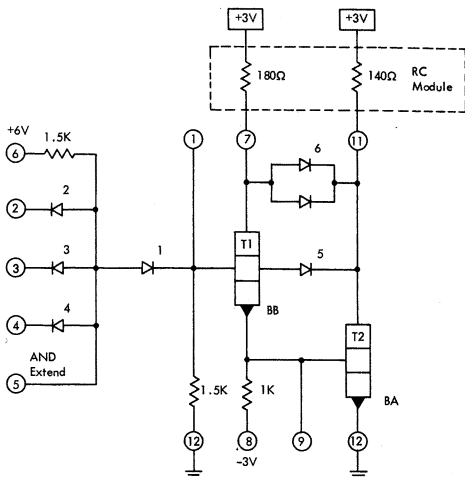
IBM Engineering Specification 873437

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
55	22.8	5.9

Average
Power Dissipation
Per Circuit mwNot Including External
RC Module →

Nom	Max
103.3	113.9



Reference Flyers

Input Requirements

$V = 9.0$ $I = 10\mu A$	Max Up
$V = 3.0$ $I = 0$	Normal Up Level
$V = 1.83$ $I = 100\mu A$	Min Up Level
$V = 1.20$ $I = 2.82mA$	Max Down Level
$V = 1.06$ $I = 3.14mA$	Normal Down Level
$V = 0.49$ $I = 3.47mA$	
$V = 0$ $I = 3.88mA$	Max Down

Output Specifications

$V = 9.0$	Max Up
$V = 3.0$ $I = 0$	Normal Up Level
$V = 0.49$ $I = -18.65mA$	Min Down
$V = 1.06$ $I = -55.5mA$	Max Down

IBM Engineering Specification 873413

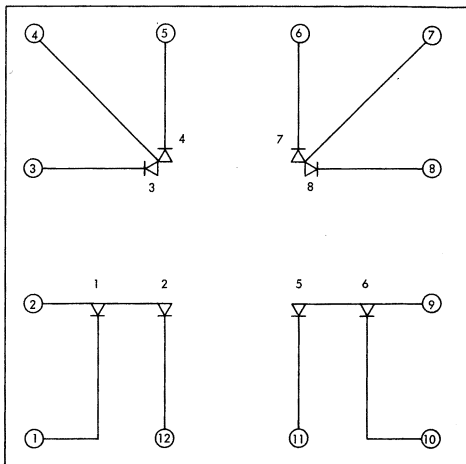
Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	13.0	--
55	----	9.5

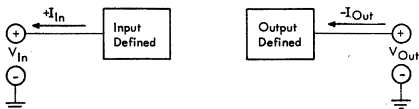
Average
Power Dissipation
Per Circuit mwNot Including
RC Module

Nom	Max
67.40	78.67

All Diodes B-9



Test	Conditions	C°	Limits	
			Min	Max
VF	IF = 0.1mA	25	0.54V	
VF	IF = 1.0mA	25	0.64V	
VF	IF = 3.0mA	25		0.76V
IR	VR = 15.0V	75		0.5μA
Cap	BIAS = 0V VAC = 50mV (f = 1Mc ± .5) P P	25		2.5pF
Temp Coef	IF = 0.1mA	25/75		2.2mV/C°
QS	IF = 3.0mA	25	4.0pC	11.5pC
Fwd Rec	IF = 2.0mA	25		0.80V

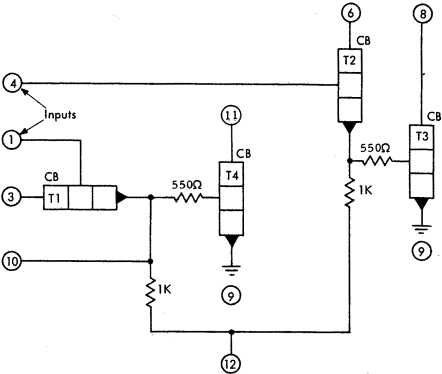


Any current flow into a module be it at the input or the output, shall be considered negative. Positive current flow is out of the module

Device Information

Class	Part Number
A Diode	5323782
A-30 Diode	5323936
AAA	5323865
AAB	5323866
AAC	5323973
ABA	5323842
ABB	5323847
ABC	5323843
ACA	5323883
ACB	5323882
ACC	5323972
CB	5323845
CC	5323844
CD	2393008

Power Supply $\pm 4\%$ at Module Pins



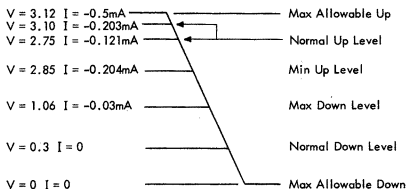
Pin 2 Not Used

This module may be used as a low speed ID or high speed ID as well as with the SLT-30 family. See Engineering Spec 873405

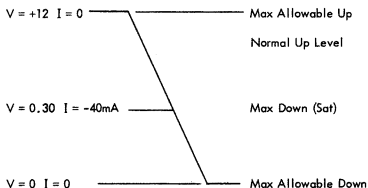
Reference Flyers

T55AH	873104
U55AB	873105
U55AJ	873106

Input Requirements



Output Specifications

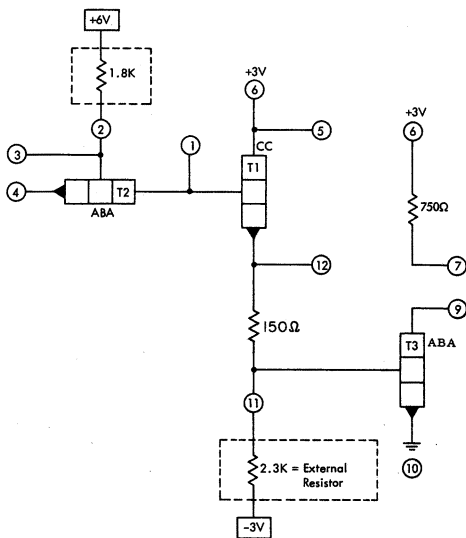

 I_C Max = 40mA at $V_{CE} = 0.30$

Pins 2 and 5 not Used

 Delay Information
 Does not Apply

 Power Dissipation
 Per Circuit mw.

Max-On	Max-Off
30.0	0

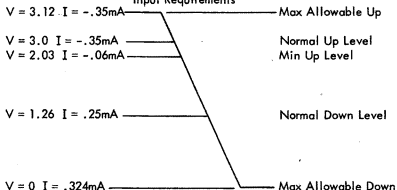


Reference Flyers

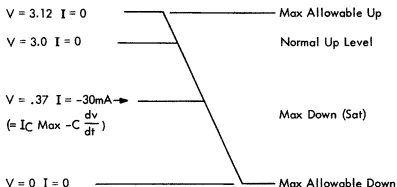
S06AK	872039
S06AN	872039
S05CJ	872039

(I-High) Terminated and Unterminated Line

Input Requirements



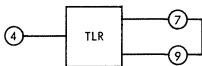
Output Specifications



Engineering Specification
872039

Driving SLT-30
Delays (Worst Case)
Nano Seconds

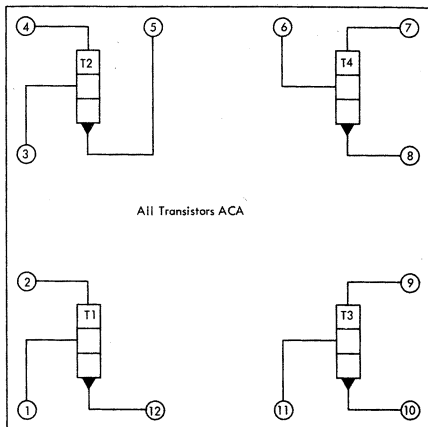
Temp C°	Ton Delay	Toff Delay
25	20	38
55		48



Equivalent Circuit seen at Input of TLR

Mode II
Power Dissipation
Per Module - mw

Max-On	Max-Off
69.2	5.64

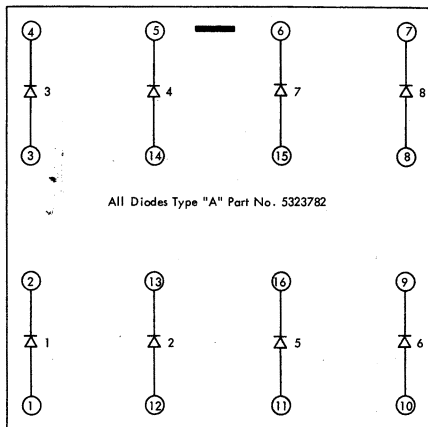


Top View

Test	Conditions	Temp C°	Limits	
			Min	Max
I_{CEX}	$V_{CE} = +12$ $V_{BE} = +0.36$	75		20 μ A
I_{BEX}	$V_{CE} = +12$ $V_{BE} = -2.5V$	75		1.0 μ A
B_{VCEO}	$I_C = 5.0\mu A$	25	12.0V	
B_{VEBO}	$I_E = 10\mu A$	25	3.0V	

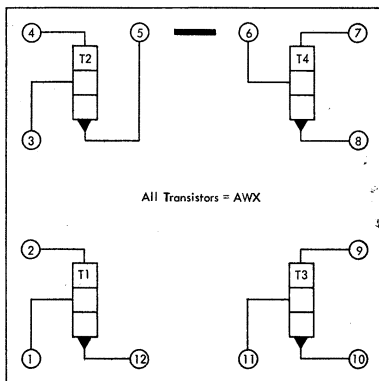
Continued on Page 31

Test	Conditions	C°	Limits	
			Min	Max
B_{VCBO}	$I_C = 10 \mu a$	25	15.0v	
h_{fe2}	$I_E = 2.0 \text{ ma}, V_{CB} = 0.2v$	25	20	
h_{fe3}	$I_E = 10 \text{ ma}, V_{CB} = 0.2v$	25	25	
h_{fe4}	$I_E = 50 \text{ ma}, V_{CB} = 1.0v$	25	20	
h_{fe5}	$I_E = 100 \text{ ma}, V_{CB} = 1.0v$	25	10	
$V_{CE1(sat)}$	$I_C = 2.0 \text{ ma}, I_b = 0.133 \text{ ma}$	25		0.25v
$V_{CE2(sat)}$	$I_C = 10.0 \text{ ma}, I_b = 0.57 \text{ ma}$	25		0.3v
$V_{CE4(sat)}$	$I_C = 50.0 \text{ ma}, I_b = 3.33 \text{ ma}$	25		0.50v
$V_{ce5(sat)}$	$I_C = 100 \text{ ma}, I_b = 14.3 \text{ ma}$	25		0.90v
$V_{be1(sat)}$	$I_C = 2.0 \text{ ma}, I_b = 0.133 \text{ ma}$	25	0.625v	0.775v
$V_{be2(sat)}$	$I_C = 10.0 \text{ ma}, I_b = 0.57 \text{ ma}$	25	0.70v	0.85v
$V_{be3(sat)}$	$I_C = 50.0 \text{ ma}, I_b = 3.33 \text{ ma}$	25	0.80v	1.10v
$V_{be4(sat)}$	$I_C = 100 \text{ ma}, I_b = 14.3 \text{ ma}$	25		1.50v
$V_{be(on)}$	$I_C = 1.13 \text{ ma}, V_{CB} = 1.2v$	75	0.50v	
C_{ib}	$V_{EB} = 0$ $f = 1 \text{ Mc} + 0.5 \text{ Mc}$	25		6.50 pf
C_{ob}	$V_{CB} = 0$ $f = 1 \text{ Mc} + 0.5 \text{ Mc}$	25		6.50 pf
Gain HFE	$I_E = 10.0 \text{ ma}$ $V_{CB} = 3.0$ $f = 100 \text{ Mc}$	25	1.70	
h_{rb}	$I_E = 1.0 \text{ ma}$ $V_{CB} = 1.0v$ $f = 10.0 \text{ Mc}$	25		0.05
$R_E (\text{Int})$				0.25 $^{\circ}C/mw$



Top View

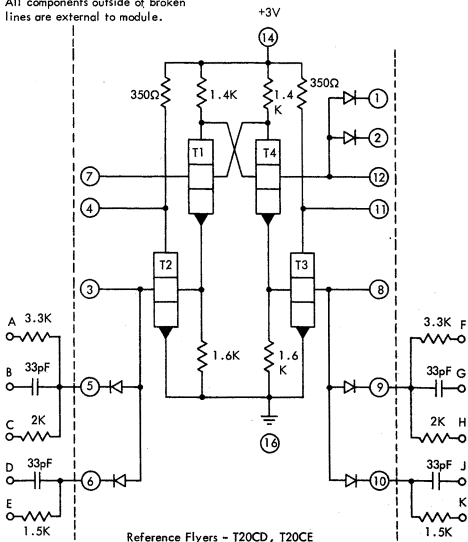
Test	Conditions	Temp C°	Limits	
			Min	Max
Qs	IF = 3.0mA	25		19.5pc
(Peak) Fwd. Recovery	IF = 2.0mA	25		0.80V
VF	IF = 0.1mA	25	0.53V	
VF	IF = 0.5mA	25	0.61V	
VF	IF = 1.0mA	25	0.64V	
VF	IF = 3.0mA	25		0.80V
VF	IF = 5.0mA	25		0.83V
Fwd. V Temp. Coef.	IF = 0.1mA	25 75		2.4mV/C°
VBR	IR = 10.0μA	25	15.0V	
IR	VR = 15.0V	75		0.5μA
CAP	Bias = 0f = 1MC ± .5 AC Sig = 50mV P-P	25		2.5pF
Rt				0.4C°/mW



Top View

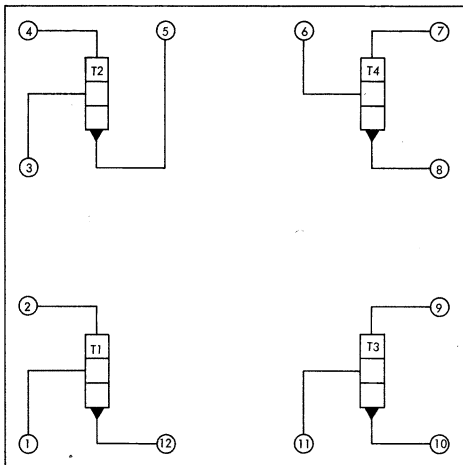
Test	Conditions	Temp C°	Limit	
			Min	Max
ICBO	IE = 0 VCB = 9.0v	75		100nA
IEBO	IC = 0 VEB = 2.0v	75		100nA
BVEBO	IE = 10μA	25	3.0V	
BVCEO	IC = 5.0mA Ib = 0	25	9.0V	
Cib	IC = 0 VEB = 0 f = 1MC ± 0.5	25		6.0pF
Cob	IE = 0 VCB = 0 f = 1MC ± 0.5	25		6.0pF
ICEX	VEB = -3.0v VCEX = 15.0v	25		10.0μA
VBE	IB = 1.40mA IC = 30.0mA	25		0.90V
VCE 1	IC = 14.0mA IB = 1.50mA	25		0.20V
VCE 2	IC = 8.0mA IB = 1.5mA	25		0.17V
VCE 3	IC = 3.5mA IB = 1.5mA	25		0.13V
hfe	IE = 30.0mA VCB = 0	25	22	

All components outside of broken lines are external to module.



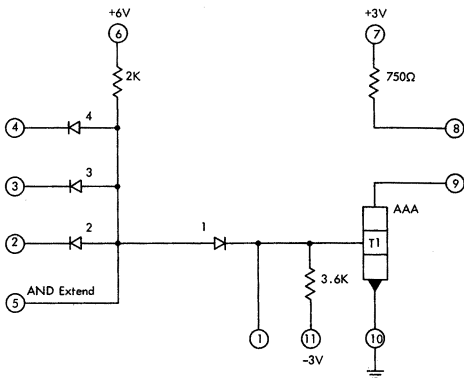
Reference Flyers - T20CD, T20CE

Term ID	Function	DC Set	Input	Gate
① ②	DC Set	3.15V 2.85V 1.20V	Up-Nom Up-Min	3.15V 2.85V
③ ⑧	AC Input Extend	0.40 to 0.14V	Dwn Nom	0.30V 0.14
⑦	Additional Diode DC Reset			
⑫	Extender		Output	
④ ⑪	Output		Up-Max Up-Nom Dwn-Nom	V = 4.0 I = 0 V = 3.15 I = 0 V = 0.3 I = 21.0mA
D, J	AC Set			
See Engineering Spec 872681				



All Transistors ACC

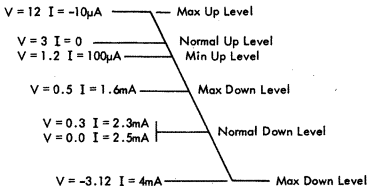
Test	Conditions	C°	Limits	
			Min	Max
I _{ce}	V _{ce} = 13V V _{be} = .35V	75		20μA
BV _{ceo}	I _c = 5mA	25	13V	
V _{ce} ^{SAT} ₁	I _c = 22mA I _b = 2.2mA	25		.30V
V _{ce} ^{SAT} ₃	I _c = 100mA I _b = 10mA	25		.90V
V _{be-ON}	V _{cb} = 1.2V I _e = 1.3mA	75	.50V	
HFE	V _{cb} = 1.0V I _e = 100mA	25	10	
h _{fe}	f = 100MC V _{cb} = 3V I _e = 10mA	25	1.50	4.75
C _{ob}	V _{cb} = 0 f = 1MC (± .5) 50mV PP (Max)	25		4pF
C _{ib}	V _{Eb} = 0 f = 1MC (± .5) 50mV PP (Max)	25		7.5pF



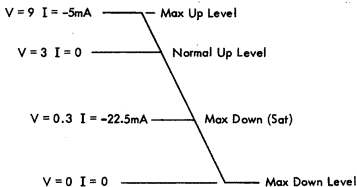
Reference Flyers

T03AA	873020
T03AB	873021
T61AA	873028
T61AB	833029

Input Requirements

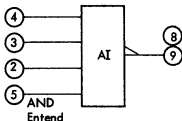


Output Specifications



Engineering Specification
890971

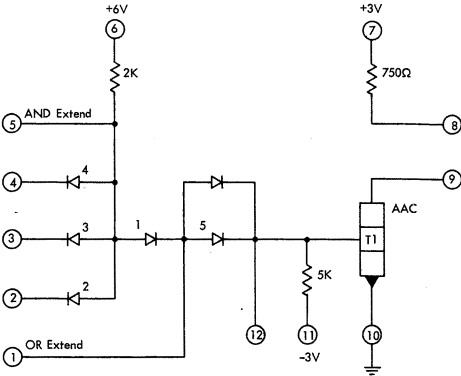
Delays (Worst Case)
Nano Seconds



Temp C°	Ton Delay	Toff Delay
25	23	26
75		33

Average Power
Dissipation mw

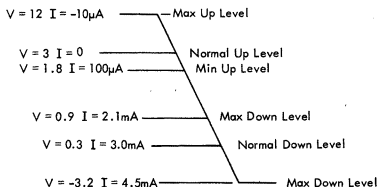
Nom	Max
24.8	27.4



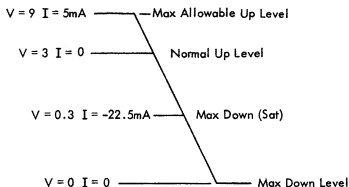
Reference Flyers

T03AC	873022
T03AD	873023
T03AE	873024
T61AA	873028
T61AB	873029
T03VA	873025
T03VB	873026

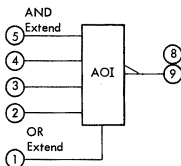
Input Requirements



Output Specifications



Engineering Specification
890972.

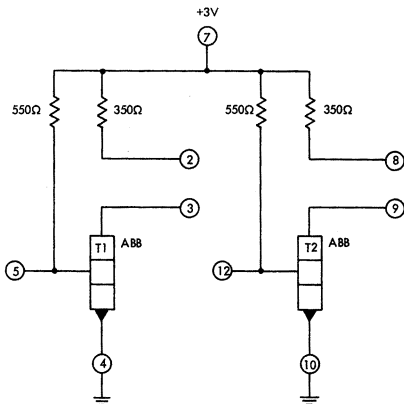


Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	39	28
75		37

Average Power
Dissipation mw

Nom	Max
26.5	29

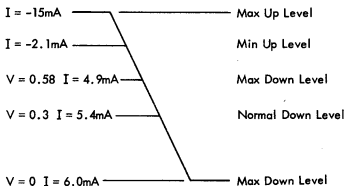


Reference Flyers

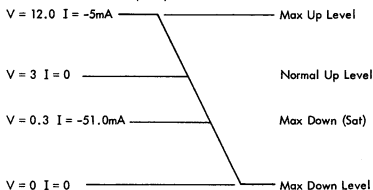
T05AA	873056
T05AB	873057
T61AC	873063

Due to special nature of this circuit see IBM Eng Spec 873402

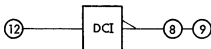
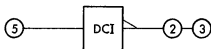
Input Requirements



Output Specifications



Engineering Specification
873402

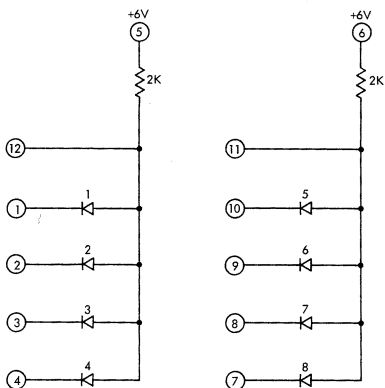


Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	<40	<55
75		<65

Average Power
Dissipation Per
Module mw

Nom	Max
67	76



All Diodes "A"

Reference Flyer

T03AC

873022

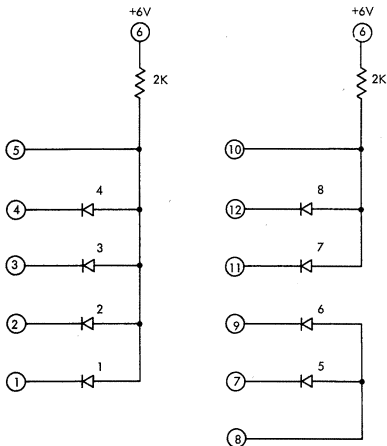
Power Requirements		Dissipation
Nom	4mA	20mw
Max	4.4mA	22mw

Input Up

All Values/Module

Input Down

Power Requirements		Dissipation
Nom	5mA	30mw
Max	6mA	38mw



All Diodes "A"

Reference Flyer
T03AC 873022

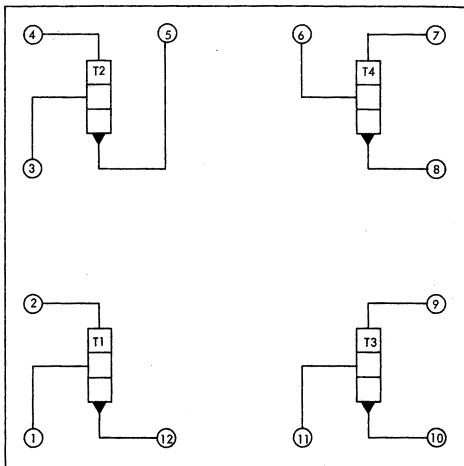
Power Requirements		Dissipation
Nom	4mA	20mW
Max	4.4mA	22mW

Input Up

All Values/Module

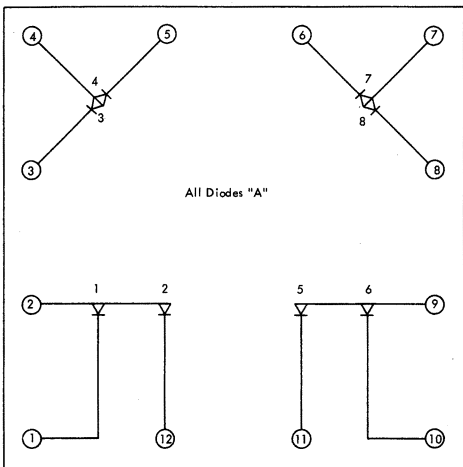
Input Down

Power Requirements		Dissipation
Nom	5mA	30mW
Max	6mA	38mW

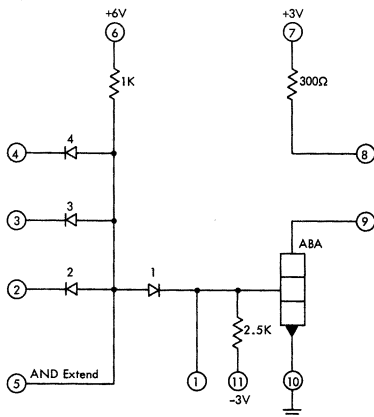


All Transistors ACB

Test	Conditions	C°	Limits	
			Min	Max
I _{cex}	V _{ce} = 9V V _{BE} = +0.36V	75		20μA
BV _{ceo}	I _c = 5mA	25	9V	
V _{ce} (SAT) ₁	I _c = 1mA I _b = .05mA	25		.25V
V _{ce} (SAT) ₃	I _c = 22mA I _b = 1.2mA	25		.30V
V _{be} (ON)	I _c = 1.3mA V _{cb} = 1.2V	75	.50V	
C _{ib}	V _{cb} = 0 f = 1Mc (± .5)	25		6.5pF
C _{ob}	V _{cb} = 0 f = 1Mc (± .5)	25		6.5pF
h _{fe}	I _E = 10mA V _{cb} = 3V f = 100Mc	25	1.7	



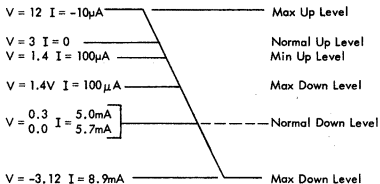
Test	Conditions	C°	Limits	
			Min	Max
QS	IF = 3mA	25		19.5pc
VF	IF = 0.1mA	25	0.53V	
VF	IF = 1.0mA	25	0.64V	
VF	IF = 5.0mA	25		0.83V
VBR	IR = 10μA	75	15V	
IR	VR = 15V	75		0.5μA
VF	IF = 15mA	25		1.05V
VF	IF = 25mA	25	0.85V	1.10V



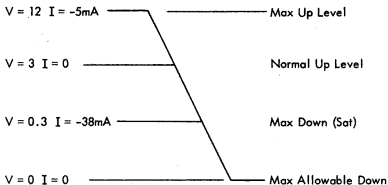
Reference Flyers

T03AF	873053
T03AJ	873054
T61AJ	873055
T03AN	873101
T03AO	873113

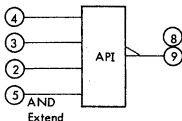
Input Requirements



Output Specifications



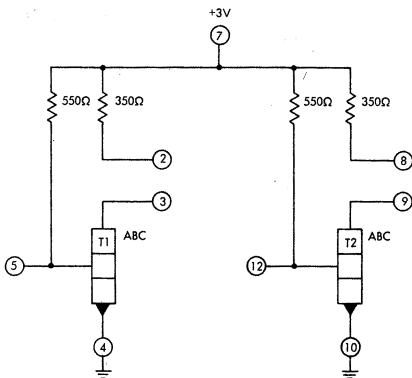
Engineering Specification
873401

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	19	37
75		51

Average Power
Dissipation Per
Module mw

Nom	Max
51	55.5



Reference Flyers

T15AA	873112
T15AE	873103
T06AR	873111

Due to the special nature of this circuit consult IBM engineering specification 873410 for input and output information.

Delays (Worst Case)
Nano Seconds

Temp C	Ton Delay	Toff Delay
25	50	70
75		86

For all Functional
Testing, Terminals

(2) — (3)

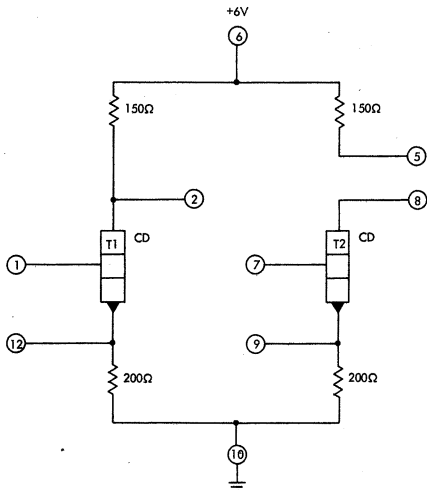
(8) — (9)

(5) — (12)

are Tied Together

Average
Power Dissipation
Per Circuit mw

Nom	Max
68	77

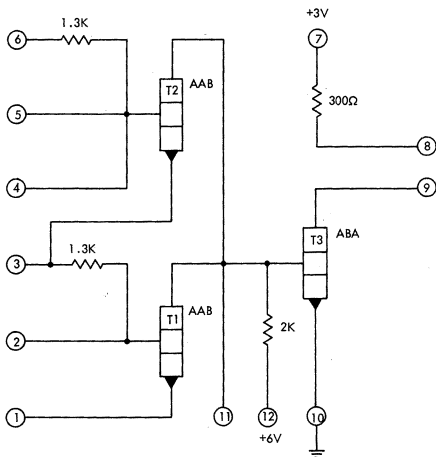


Reference Flyer T06AA 873027

Due to the special nature of this circuit consult IBM Engineering Specification 890974 and 872081 for input and output information. Delay values are dependent upon usage.

Average
Power Dissipation
Per Circuit mw

Nom	Max
74.1	83.6

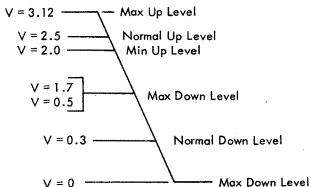


③ and ⑥ are input pins.

Reference Flyers

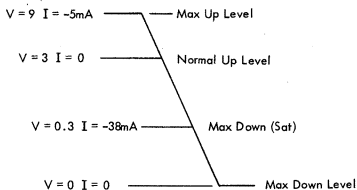
T03AI	873060
T03AP	873059
T61AJ	873055

Input Requirements



Values of "I"
Dependent on usage.

Output Specifications

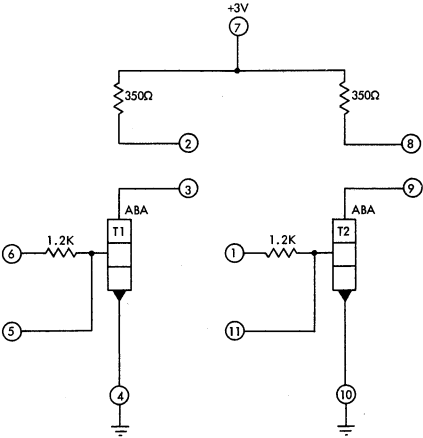
Delays (Worst Case)
Nano Seconds

See IBM Engineering
Specification 873400

Temp C°	Ton Delay	Toff Delay
25	40	55
75		67

Average
Power Dissipation
Per Circuit mw

Nom	Max
33.2	41.5



Reference Flyers

S05A5	873102
S05AH	873114
T61AC	873063

Input Requirements

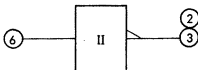
$V = 6 \text{ I} = -4.5\text{mA}$	Max Up Level
$V = 2 \text{ I} = 0.9$	Min Up Level
$V = 0.58 \text{ I} = 0$	Max Down Level
$V = \begin{smallmatrix} 0.3 \\ 0.0 \end{smallmatrix} \text{ I} = 0$	Normal Down Level
$V = -3.12 \text{ I} = 10\mu\text{A}$	Max Down Level

Output Specifications

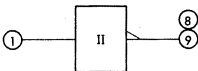
$V = 9 \text{ I} = -5\text{mA}$	Max Up Level
$V = 3 \text{ I} = 0$	Normal Up Level
$V = 0.3 \text{ I} = -27\text{mA}$	Max Down (Sat)
$V = 0 \text{ I} = 0$	Max Down Level

Engineering Specification
873409

Delays (Worst Case)
Nano Seconds



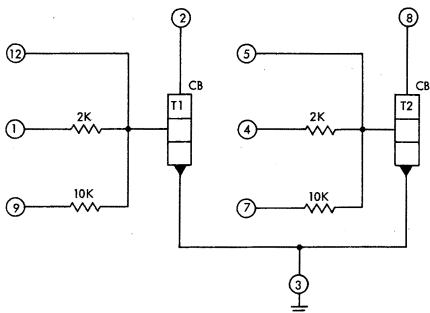
Temp C°	Ton Delay	Toff Delay
25	35	39
75		51



Average Power
Dissipation Per
Module mw

For DCI input, pins. (5) and (11) are used

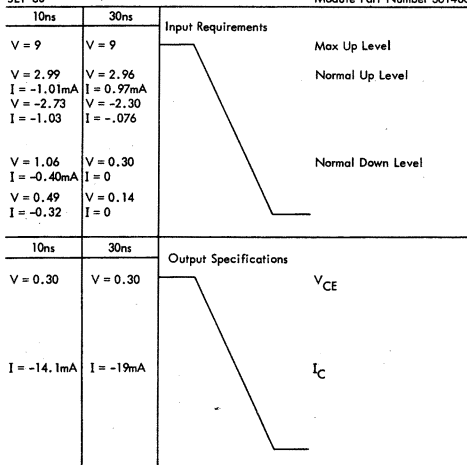
Nom	Max
30.4	35.3



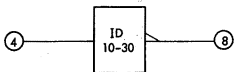
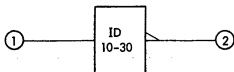
Reference Flyers

U55AA	U55AC
U55AD	T55AD
T55AF	

This module may be used with 30 and 10 nano second family modules



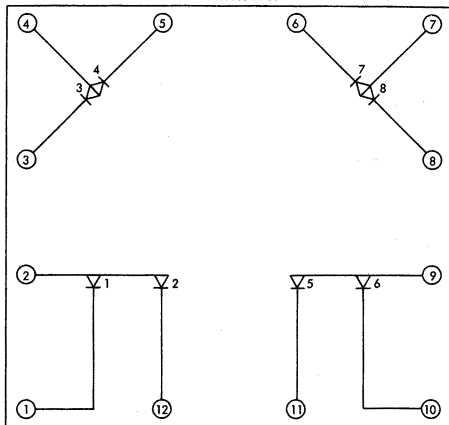
Engineering Specification
873416



Power Dissipation
Per Module mw

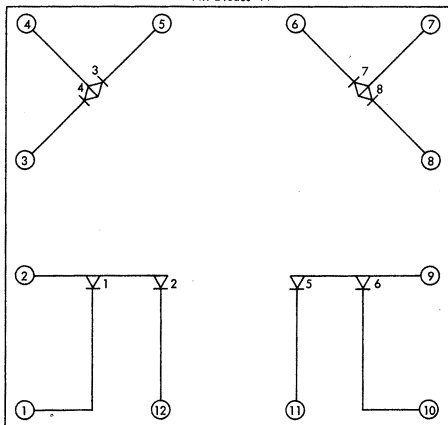
10ns	30ns
11.2	11.74

All Diodes A-30

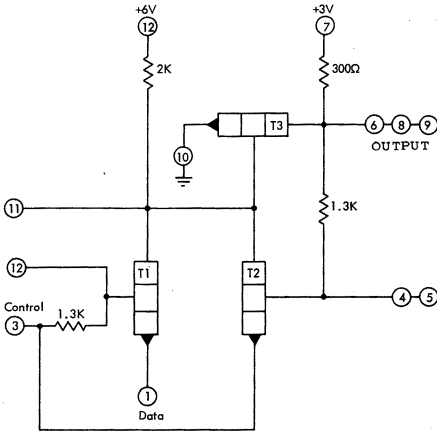


Test	Conditions	C ^o	Limits	
			Min	Max
V _F	I _F = 20μA	25	0.4V	
V _F	I _F = 0.5mA	25	0.61V	0.72V
V _F	I _F = 1.0mA	25	0.64V	
V _F	I _F = 3.0mA	25		0.80V
V _F	I _F = 25mA	25	0.85V	1.10V
V _{BR}	I _R = 10μA	75	30V	
Q _S	I _F = 3.0mA	25		19.5PC
I _R	V _R = 15V	75		0.5μA

All Diodes "A"



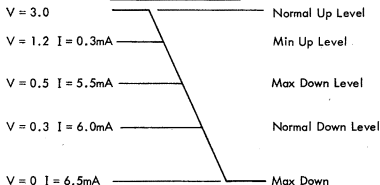
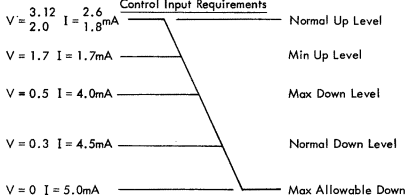
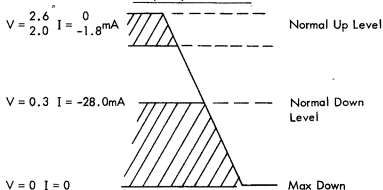
Test	Conditions	C°	Limits	
			Min	Max
V _F	I _F = 60mA	75	0.89V	
V _F	I _F = 60mA	25	0.95 V	1.4V
I _R	V _R = 15V	75		1.0μA
C	f = 1.0mc ± .5mc "0" Bias 50mV P to P	25		2.5pF
V _P	I _F = 75mA	25		1.9V
R _T INT				0.33°C/mw



⑥-⑧-⑨ and ④-⑤ connections are external to the module

Reference Flyer

T03AK 873061

Data Input RequirementsControl Input RequirementsOutput Specifications

For delay information see
IBM Eng Spec 890985

Average Power Dissipation
Per Circuit mw

Nom	Max
37.9	46.6

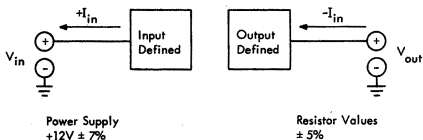
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60 to 66

AND IS RESERVED

FOR

FUTURE DEVELOPMENT

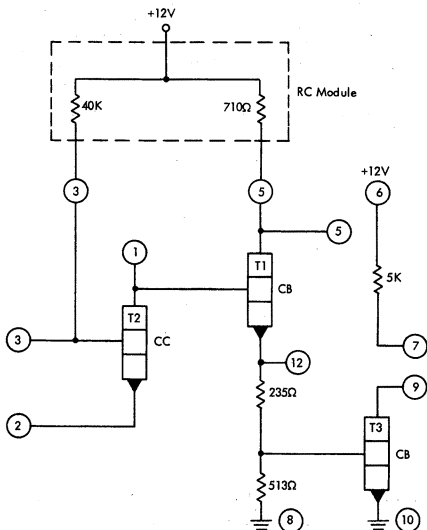


Device Identification

Type	Part No.
AAA	5323865
AAD	5323974
CA	5323850
CB	5323845
CC	5323884
"C" Diode	5323888

Circuits Can Be Constructed by Use of Following Module Combinations

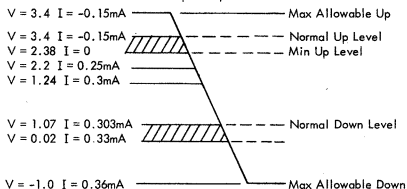
"OR" Variable Single Shot	Single Shot SSL	1.3 μ sec. 3K Non-Latch Single Shot	Flip-Flop Latch	Delay Circuit
DCI-II 361494	AOX, 361495	DCI-II 361494	Two-IBM AI 361493	DCI-II 361494
AOX, 361495	DCI-II 361494	FDD 361499	R.C. Module 2390657	AOX 361495
R.C. Module 2390469	2K Pot IBM P.N. 483119	R.C. Module IBM P.N. 2390657		R.C. Module 2390469
R.C. Module 2390663	Ext Res. 1-3K, 2-4K, 2-11K	5K R.C. Module 2390467		R.C. Module 2390663
	Timing Capacitor			
Reference Eng. Spec. No.				
873118	890984	872324	873412	890983



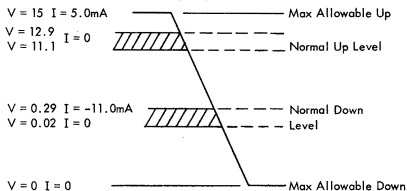
Reference Flyers

V06EE	(TLR)	873095
V06EF		873096
V06EC	(Terminator)	873094

Input Requirements



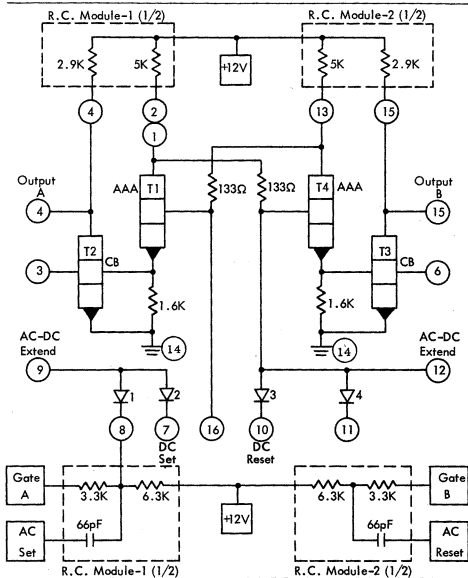
Output Specifications

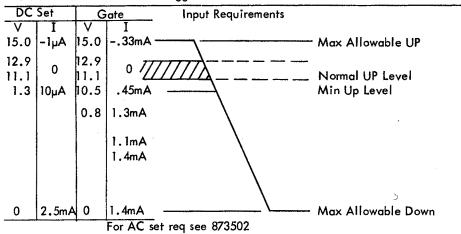


Engineering Specification
873404

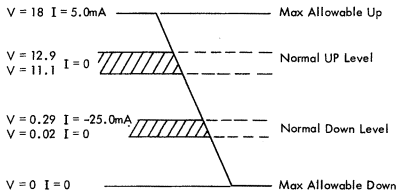
Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	130	350
75		420

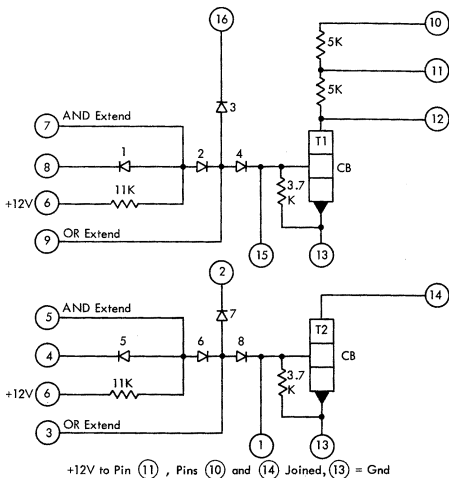




Output Specifications



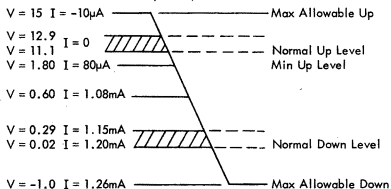
See 873502 for Delays (Worst Case)



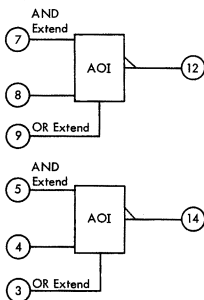
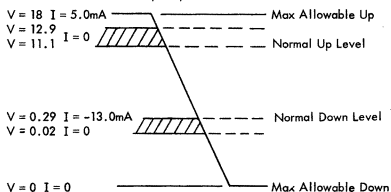
Reference Flyers

V03AA		873000
V03AB		873012
V03AL	(Endicott)	872326
V03EB		Endicott
V61AB		873019

Input Requirements

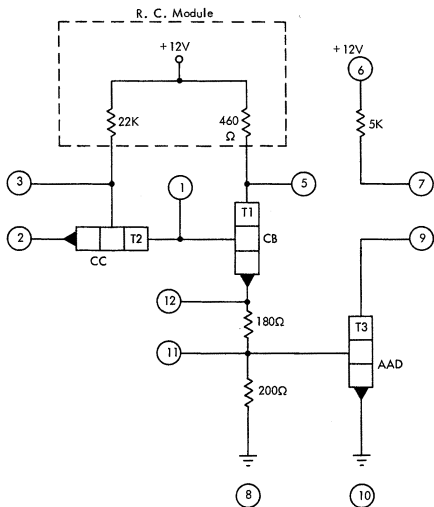


Output Specifications

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	340	680
75		850

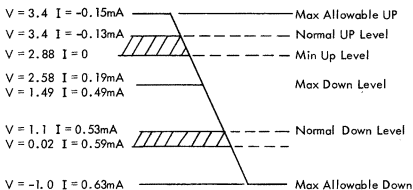
Engineering Specification
890980



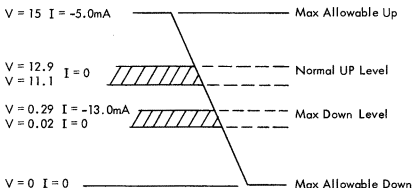
Reference Flyers

V06EI	(TLR)	873337
V06EJ		873338
S06EA		Terminator

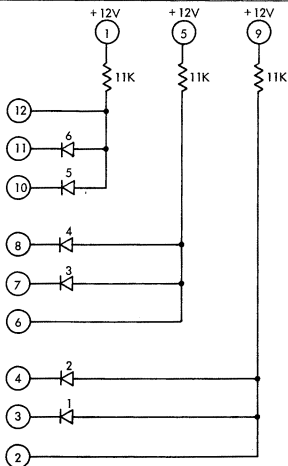
Input Requirements



Output Specifications

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	130	105
75		130



All Diodes "C"

Reference Flyers

V03AA

873000

V03AO

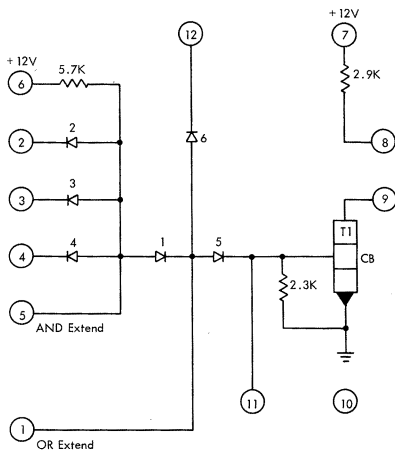
(San Jose)

Input Up	
Power Requirements	Dissipation
Max	
3.3mA	41.7mw
Nom	
2.7mA	27.0mw

All Values are per Module

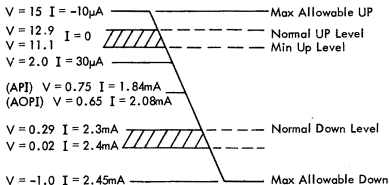
Power Supply +12.0V

Input Down	
Power Requirements	Dissipation
Max	
3.6mA	46.0mw
Nom	
3.0mA	35.4mw

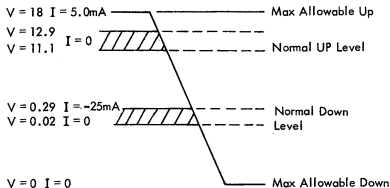


V03AE	873003
V03AH	873005
V03AI	873006
V03AF	873007
V03AG	873008
V03AT	873009
V03AV	873018
V03AX	873004
V61AA	873011

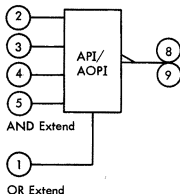
Input Requirements

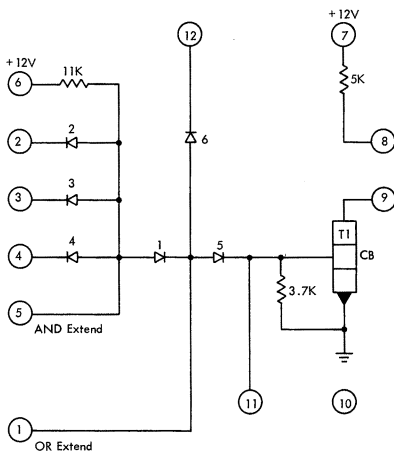


Output Specifications

Delays (Worst Case)
Nano Seconds

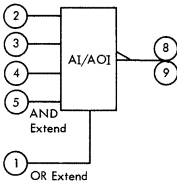
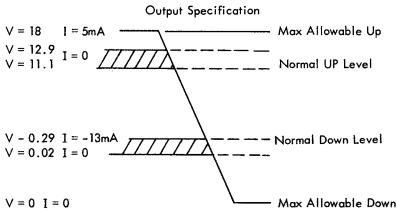
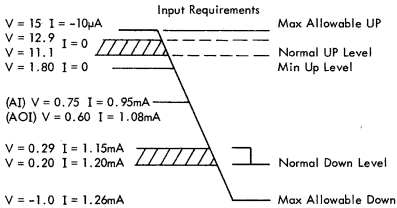
Temp C°	Ton Delay		Toff Delay	
	API	AOPI	API	AOPI
25	200	220	370	650
75			510	800

Engineering Specification
890979



Reference Flyers

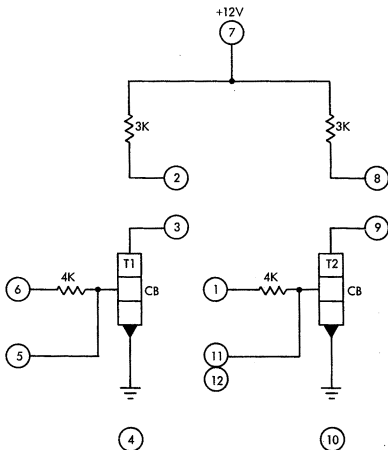
V03AA	873000
V03AB	873012
V03AC	873013
V03AJ	873014
V03AK	873015
V03AL (Endicott)	872326
V03AW	873016
V03EB	Endicott
V03AV	873018
V61AB	873019



Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay		Toff Delay	
	AI	AOI	AI	AOI
25	310	340	380	680
75			520	850

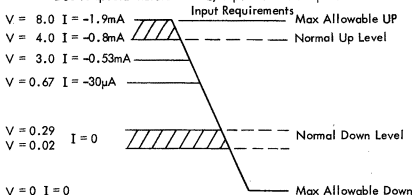
Engineering Specification
890980



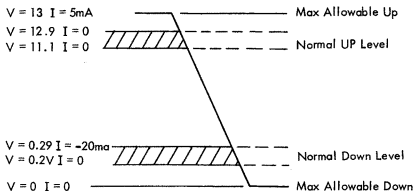
Reference Flyers

V06AC	873030
V06AD	873031
V06AE	873032
V06AF	873033

Due to special nature of DCI, input cannot be specified

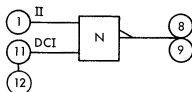
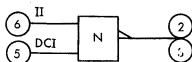


DCI II Output Specifications

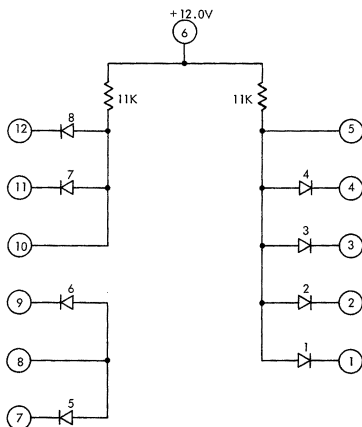


Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay		Toff Delay	
	DCI	II	DCI	II
25	550	310		
75			320	630



Engineering Specification
890982 - 890981



All Diodes "C"

Reference Flyers

V03AA	873000
V03AO	(San Jose)
V03AR	873001
V03AS	873002

Input Up

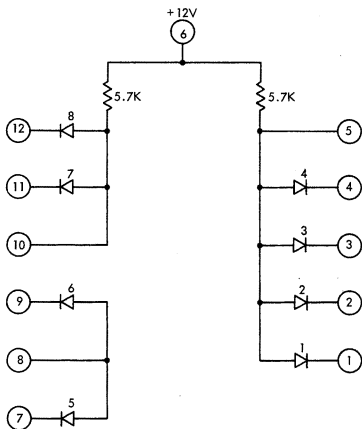
Power	
Requirements	Dissipation
Max	
2.2mA	27.8mw
Nom	
1.8mA	19.4mw

All Values Given
Are Per Module

Power Supply +12V

Input Down

Power	
Requirements	Dissipation
Max	
2.4mA	31.0mw
Nom	
2.0mA	24.4mw



All Diodes "C"

Reference Flyers

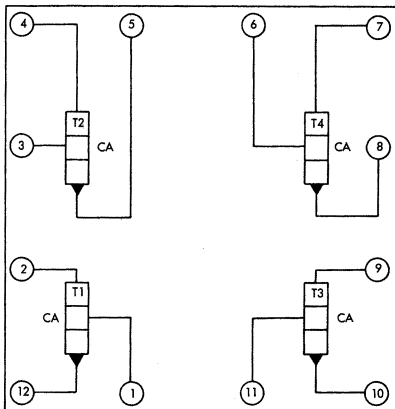
V03AE	873003
V03AR	873001
V03AS	873002
V03AX	873004

Input Up	
Power Requirements	Dissipation
Max	
4.2mA	54.5mw
Nom	
3.2mA	33.6mw

All Values Given
Are Per Module

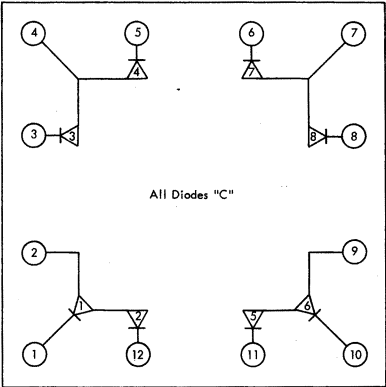
Power Supply +12.0V

Input Down	
Power Requirements	Dissipation
Max	
4.6mA	64.0mw
Nom	
3.8mA	47.0mw



Test	Conditions	C°	Limits	
			min	max
I_{CEX}	$V_{CE} = 13.0V$ $V_{BE} = +0.4V$	75		20 μa
I_{BEX}	$V_{CE} = 13.0V$ $V_{BE} = -2.5V$	75		1.0 μa
BV_{CEO}	$I_C = 5\text{ ma}$	25	12.0 V	
BV_{EBO}	$I_E = 10\mu a$	25	3.0 V	
BV_{CBO}	$I_C = 10\mu a$	25	18.0 V	
h_{FE1}	$I_E = 0.1\text{ ma}$ $V_{CB} = +0.20V$	25	10.0 V	

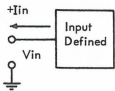
Test	Conditions	C°	Limits	
			Min	Max
h_{fe3}	$I_E = 10 \text{ ma}, V_{CB} = 0.2 \text{ v}$	25	30	
h_{fe5}	$I_E = 100 \text{ ma}, V_{CB} = 1 \text{ v}$	25	10	
$V_{CE1}(\text{sat})$	$I_C = 1.0 \text{ ma}, I_B = 0.05 \text{ ma}$	25		0.20 v
$V_{CE2}(\text{sat})$	$I_C = 10 \text{ ma}, I_B = 0.5 \text{ ma}$	25		0.20v
$V_{CE3}(\text{sat})$	$I_C = 22 \text{ ma}, I_B = 1.2 \text{ ma}$	25		0.30v
$V_{CE4}(\text{sat})$	$I_C = 50 \text{ ma}, I_B = 2.5 \text{ ma}$	25		0.40v
$V_{CE5}(\text{sat})$	$I_C = 100 \text{ ma}, I_B = 10.0 \text{ ma}$	25		0.70v
$V_{BE1}(\text{sat})$	$I_C = 1.0 \text{ ma}, I_B = 0.05 \text{ ma}$	25	0.60v	0.75v
$V_{BE2}(\text{sat})$	$I_C = 10.0 \text{ ma}, I_B = 0.5 \text{ ma}$	25	0.70v	0.85v
$V_{BE3}(\text{sat})$	$I_C = 50.0 \text{ ma}, I_B = 2.5 \text{ ma}$	25	0.85v	1.10v
$V_{BE4}(\text{sat})$	$I_C = 100 \text{ ma}$ $I_B = 10.0 \text{ ma}$	25		1.50v
$V_{BE}(\text{on})$	$I_C = 1.0 \text{ ma}$ $V_{CB} = +1.0 \text{ v}$	75	0.50v	
C_{ib}	Bias = 0 $f = 1 \text{ Mc} \pm 0.5 \text{ Mc}$ Bias = 0	25		6.0 pf
C_{bo}	$f = 1 \text{ Mc} \pm 0.5 \text{ Mc}$	25		6.0 pf
Gain h_{fe}	$I_E = 10.0 \text{ ma}$ $V_{CB} = 3.0 \text{ v}, f = 100 \text{ Mc}$	25	1.70	
h_{ie}	$I_C = 5.0 \text{ ma}$ $V_{CE} = +5.0 \text{ v}, f = 1 \text{ kc}$	25		1.50
h_{fe3}	$I_C = 5.0 \text{ ma}$ $V_{CE} = +5.0 \text{ v}, f = 1 \text{ kc}$	25	30	200
h_{rb}	$I_E = 5.0 \text{ ma}$ $V_{CB} = +5.0 \text{ v}, f = 1 \text{ kc}$	25	0	1.30×10^{-3}
h_{ob}	$I_E = 5.0 \text{ ma}$ $V_{CB} = +5.0 \text{ v}, f = 1 \text{ kc}$	25	0	2.0 mho



Test	Conditions	C°	Limit	
			Min	Max
V _F	I _F = 0.02 ma	25	0.42v	
V _F	I _F = 0.10 ma	25	0.53v	
V _F	I _F = 1.0 ma	25		0.80v
V _F	I _F = 2.0 ma	25		0.88v
V _F	I _F = 5.0 ma	25		0.88v
BV _R	I _R = 0.01 ma	75	15.0v	
I _R	V _R = 15.0v	75		1.0 μa
Temp. Coef.	I _F = 0.10 ma	25 to 75	-2.4 mv/C°	
Diode Cap	Bias = 0 f = 1 + 0.5Mc Signal 50 mv P-P	25	Max 3.5 pf	

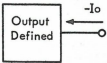
DEVICE INFORMATION

CLASS	PART NUMBER
A DIODE	5323782
AD 6	2393194
AD 7	2393195
AD 8	2393196
AD 9	2393197
AD 10	2393198
AD 13	2393422
AD 15	2393496
AD 16	2393497



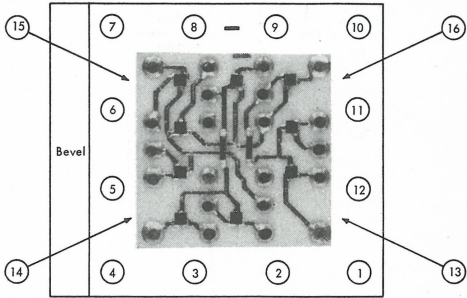
Common Pins

- Pin 13 -3V
- Pin 14 +3V
- Pin 15 +6V
- Pin 16 GND



All Power Supplies
 $\pm 4\%$

All Diodes
"A"



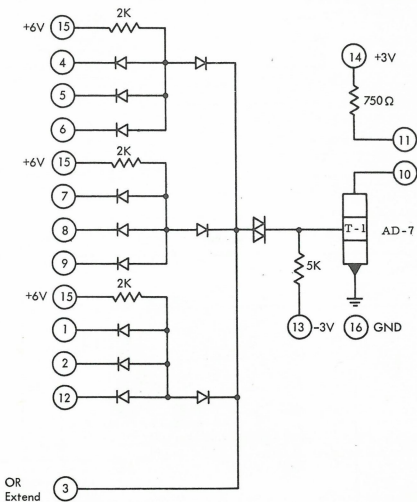
Part Number	Title
361448	3A 3OI
361449	4II/DCI
361450	2-4 Way AI
361594	3 XOR
361595	3-3 Way AI
361596	2A-5OI
361597	2-3A/2A OI
361598	2 AOI-HPD
23995112	3-3 Way A (O) I
23995113	3-3 Way AI
2551658	MST To SLD/NPL
2395148	3-3 Way API
2395143	MST-I To SLD

BLANK
PAGE

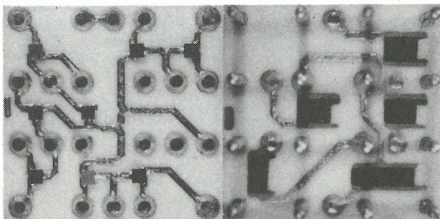
SLD-30

3A-30 Invert

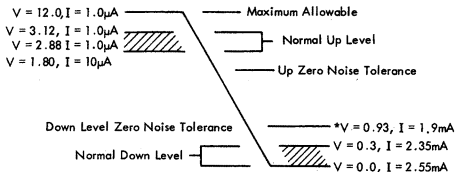
Module Part No. 361448



Reference Flyers TO3DG, TO3DD, TO3DH

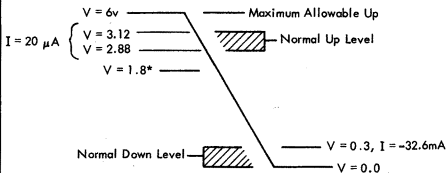


INPUT REQUIREMENTS



*Up Level Output Drive Not Guaranteed

OUTPUT SPECIFICATIONS

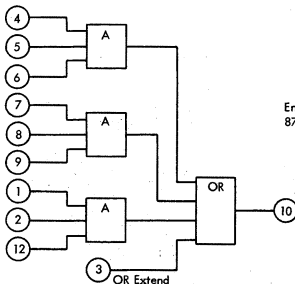


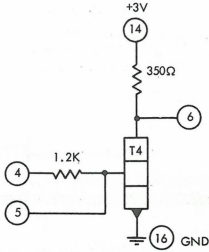
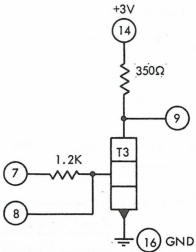
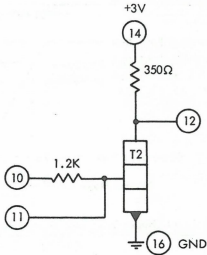
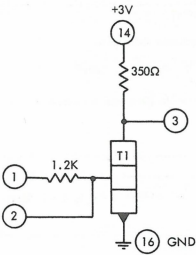
* Minimum Down Level with +0.93v on Input.
 Output Up Level Drive Cannot be Guaranteed

Delay (Worst Case)

Turn on	Turn off
36ns	35ns
25°C	25°C

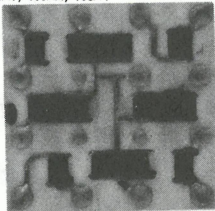
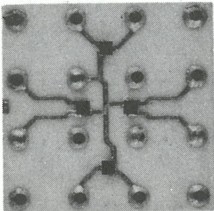
Engineering Specification
873751





ALL TRANSISTORS AD-10

Reference Flyers T05AT, T05AX, T05AV



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INPUT REQUIREMENTS					
II		DCI			
		1.2K	Open	1.2K	+3V
V	mA	V	mA	V	mA
6.24	- 4.86		-10.0		-10.0
See Spec		1.01	- 2.37	1.1	- 2.19
2.0	-0.9	0.78	- 2.37	0.8	- 2.19
0.58	0	0.58	0.02	0.58	2.25
0.3	-18.5	0.3	0.02	0.3	2.50
0.0	0.0	0.0	0.02	0.0	2.76

Maximum Allowable

Maximum Up

Minimum Up

Down Zero Noise

Minimum Down

Maximum Down

OUTPUT SPECIFICATIONS					
II		DCI			
		1.2K	"O"	1.2K	+3V
V	I	V	I	V	I
6.24		6.24		6.24	
3.12		3.12		3.12	
2.88	20 μ A	2.88	20 μ A	2.88	20 μ A
0.3	-18.5mA	0.3	-34.3	0.3	-47.4
0.0		0.0		0.0	

Maximum Allowable

Maximum Up

Minimum Up

Minimum Down

Maximum Down

DCI

2

1

N

3

DCI

8

7

N

9

DCI

11

10

N

12

DCI

5

4

N

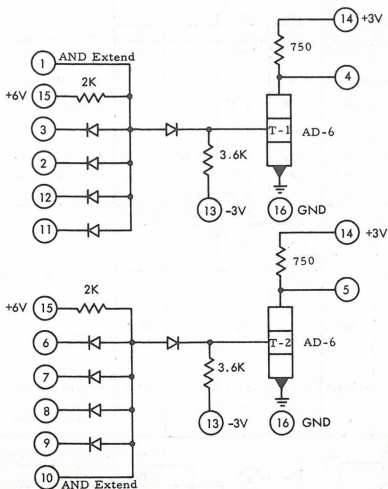
6

Delay (Worst Case) Nano Sec.

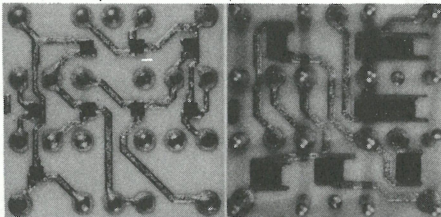
	DCI		II	
C ^o	Ton	Toff	Ton	Toff
25	68	37	34	54

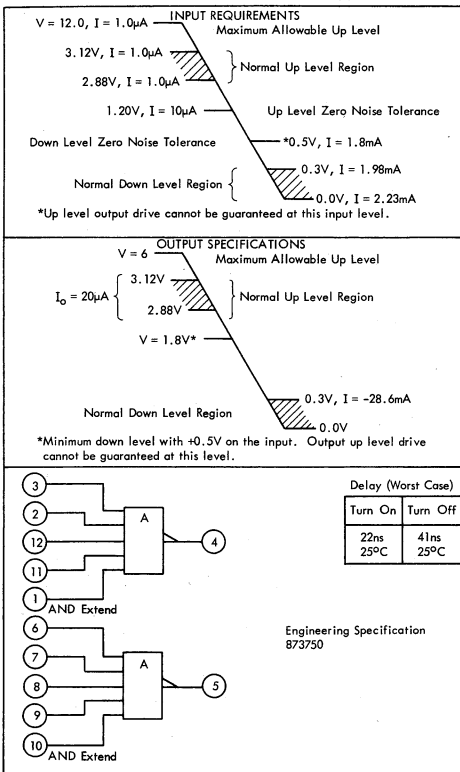
Engineering Specification

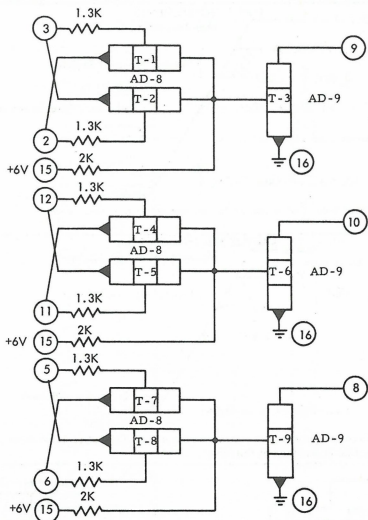
873753 - 873755



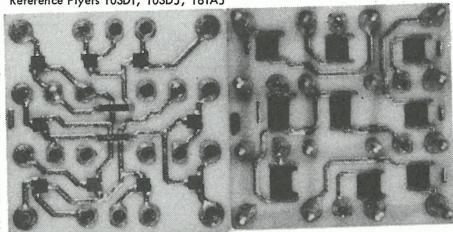
Reference Flyers TO3DC, TO3DE, TO3DF

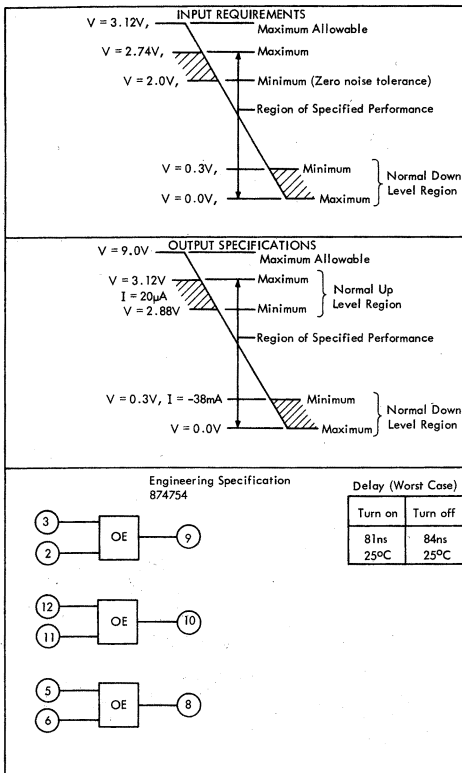






Reference Flyers T03DI, T03DJ, T61AJ

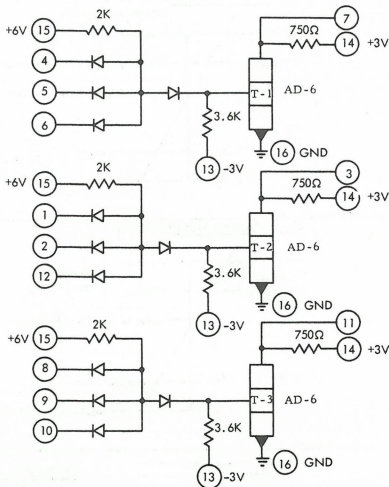




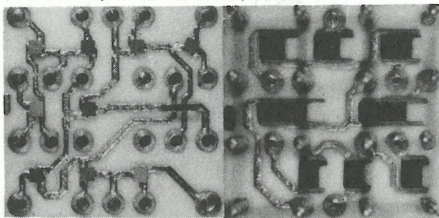
SLD-30

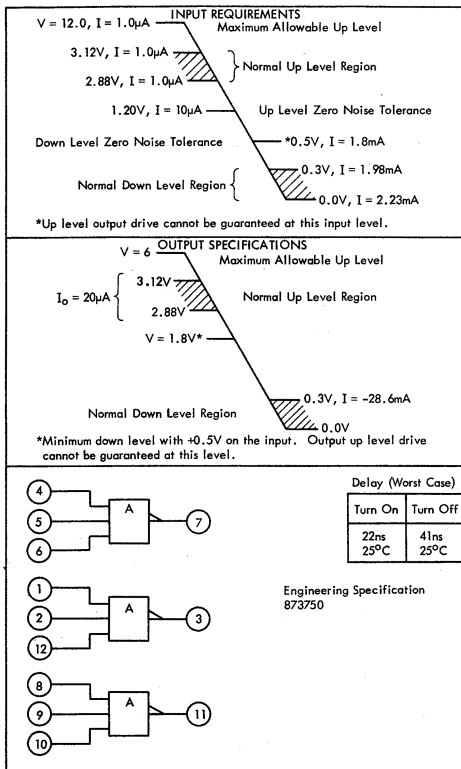
3-3 Way AI

Module Part No. 361595



Reference Flyers TO3DC, TO3DE, TO3DF

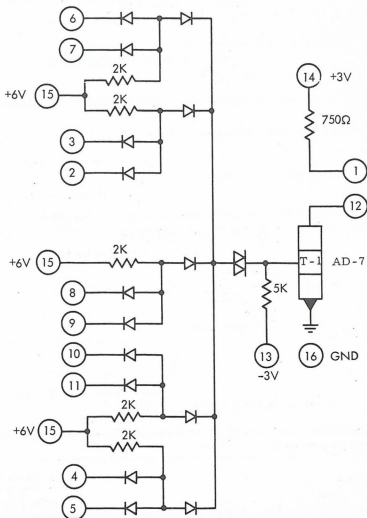




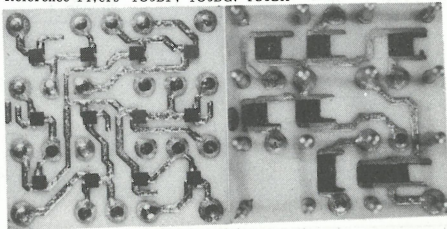
SLD-30

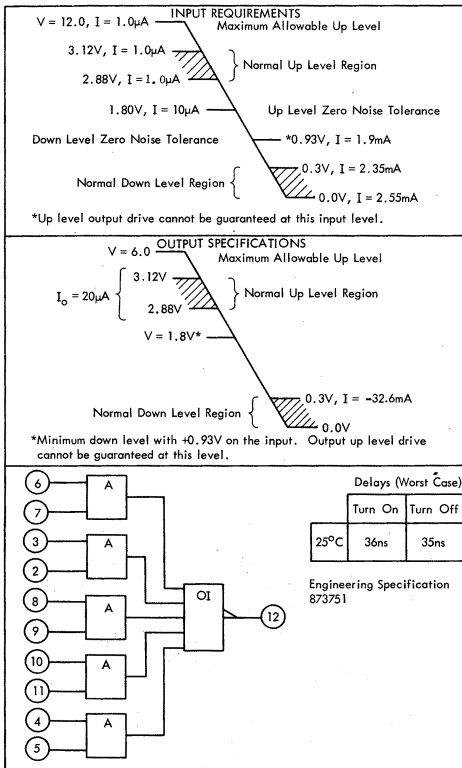
2A-50 Invert

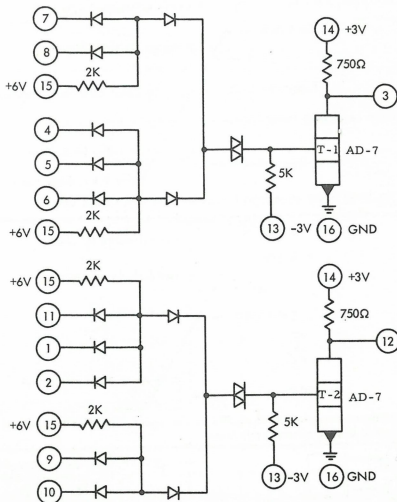
Module Part No. 361596



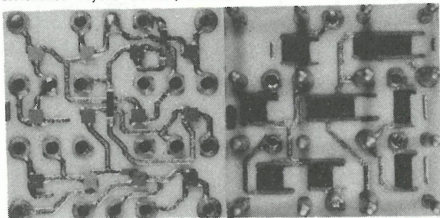
Reference Flvers TO3DF, TO3DG, TO3DH

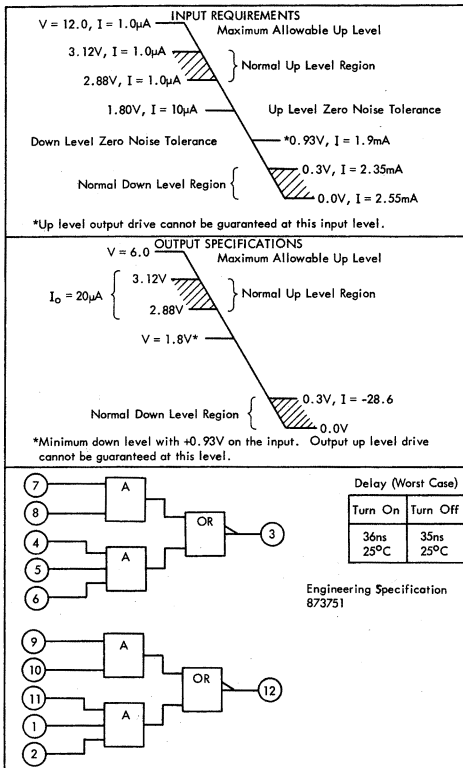


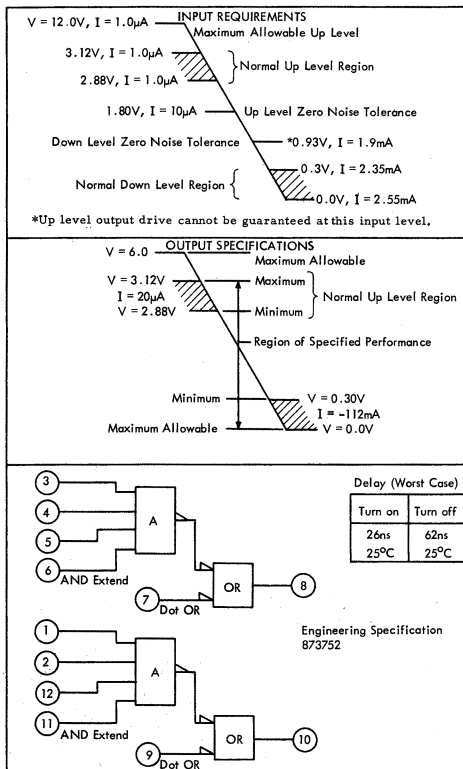


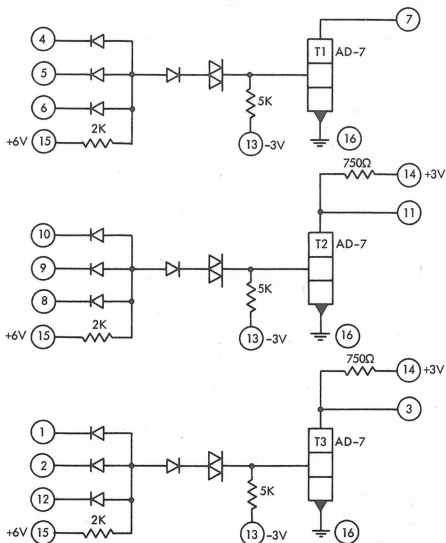


Reference Flyers TO3DF, TO3DH

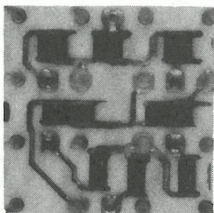
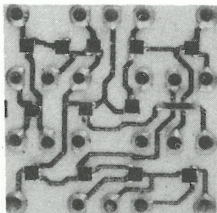


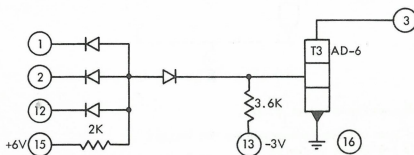
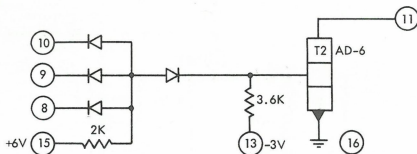
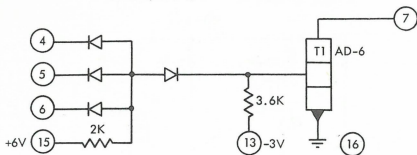




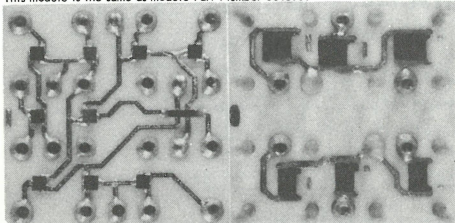


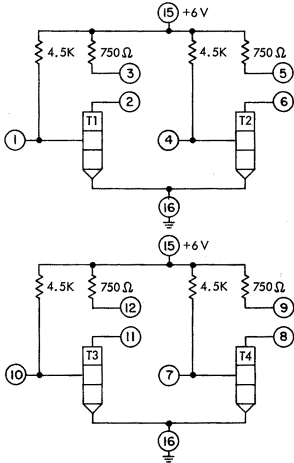
Input and output information same as module Part No. 361448





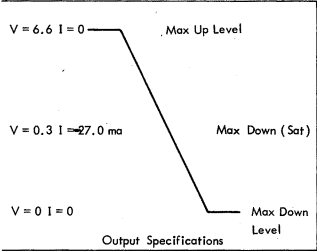
This module is the same as module Part Number 361595.

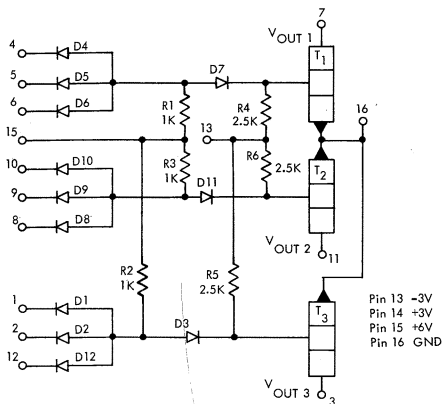




All Transistors
AD - 13

Reference Flyers PXAAA, PXAAC
For Input and Delay Information See IBM Standard
TEB 2-6400-100 Section 16.5



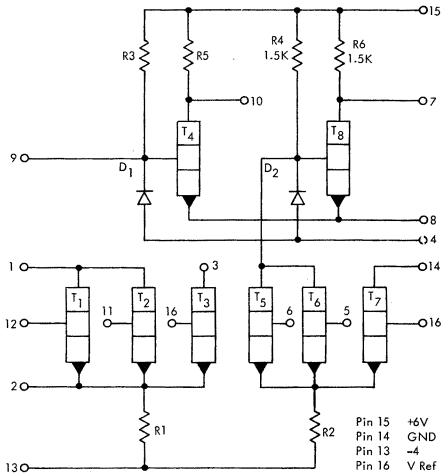


Reference Engineering Specification 862086

Reference Circuit Flyer T03IG

Worst Case Delays
 (Nano Seconds)

Temp °C	t On Delay	t Off Delay
25	19	37



Reference Circuit Flyers: XXRAC, XNRAA, XLRAE, XXLRAF

Worst Case Delays
(Nano Seconds)

Temp °C	IP td On	OP td On	IP td Off	OP td Off
25	28	28		
75			27	28

Pd: Maximum 210mw

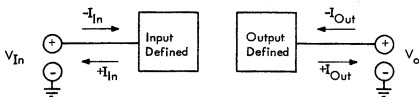
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115 to 124

AND IS RESERVED

FOR

FUTURE DEVELOPMENT



Common Pins

Pin	Function
15	→ +6v
16	→ Gnd

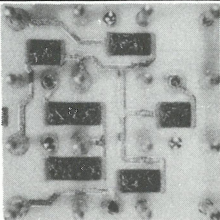
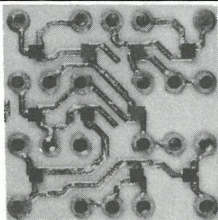
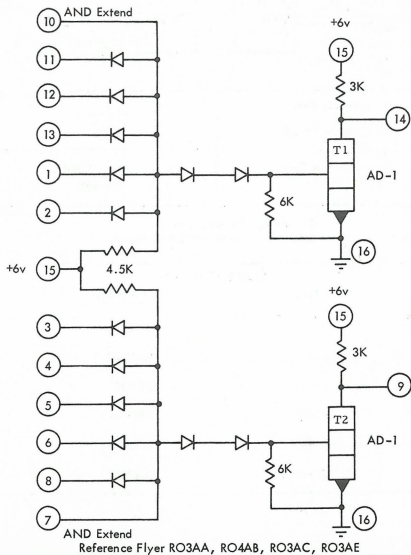
All Diodes
"C"Power Supply
± 10%Pin and Bevel Location same as
SLD-700. (See SLD-700 Fact Sheet)

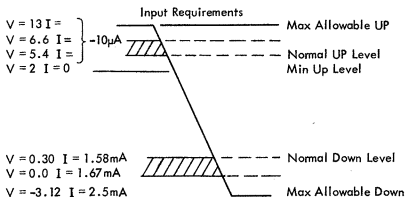
Device Information

Type	Part Number
AD-1	2393148
AD-2	2393149
AD-3	2393150
AD-4	2393151
AD-14	2393824
"C" - Diode	5323888

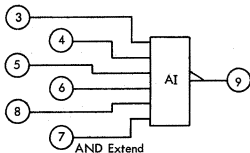
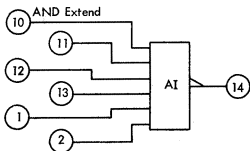
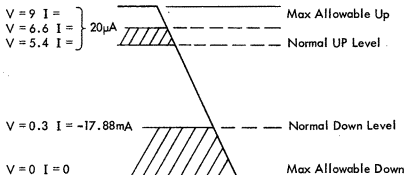
Module Information

Released PN	Logic Title	Development PN
361440	2-5 Way AI	16A-0193
361441	3-3 A/1A20I	16A-0194
361442	4II/DCI - II	16A-0195
361443	3-3 Way AI	16A-0196
361444	AOX-3	16A-0197
361452	2-3 Way AOI - II	16A-0198
361458	Trigger	16A-0199
2395140	4-2 Way API	16A-0282





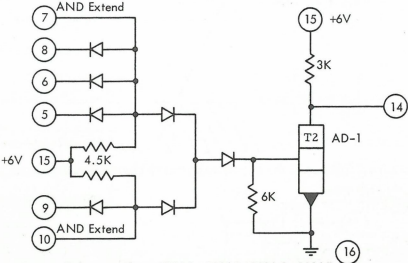
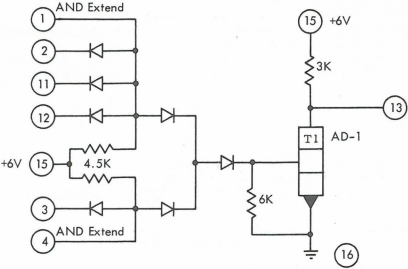
Output Specifications



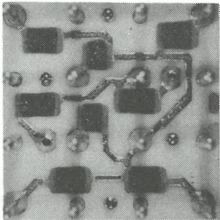
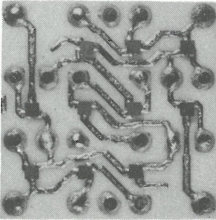
Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	110	60

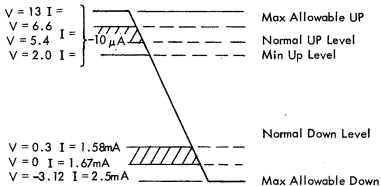
Engineering Specification
872193



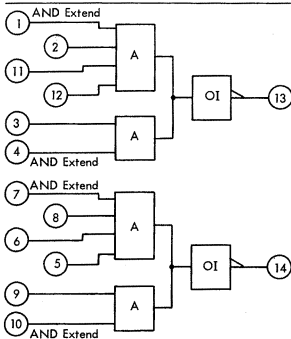
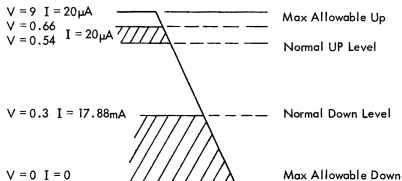
Reference Flyers R03AA, R03AB, R03AC, R03AE.



Input Requirements



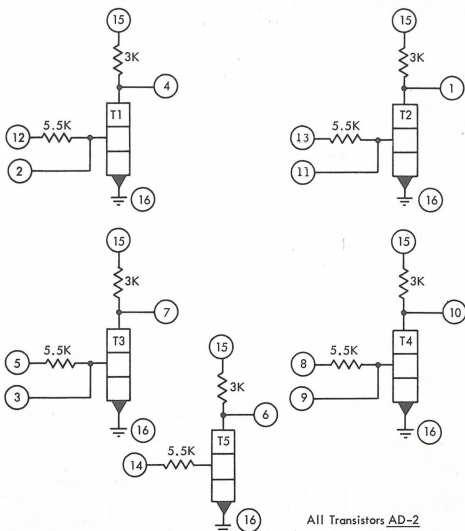
Output Specifications



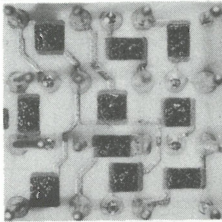
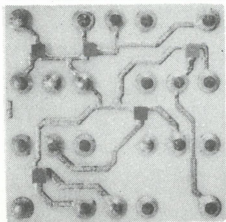
Delays (Worst Case)
Nano Seconds

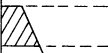
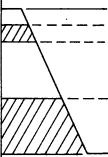
Temp C°	Ton Delay	Toff Delay
25	110	60

Engineering Specification
872193

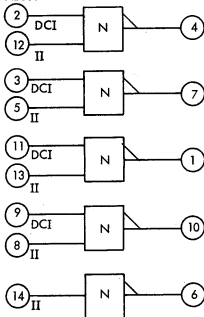
All Transistors AD-2

Reference Flyers R05AA, R05AB, R05AC.



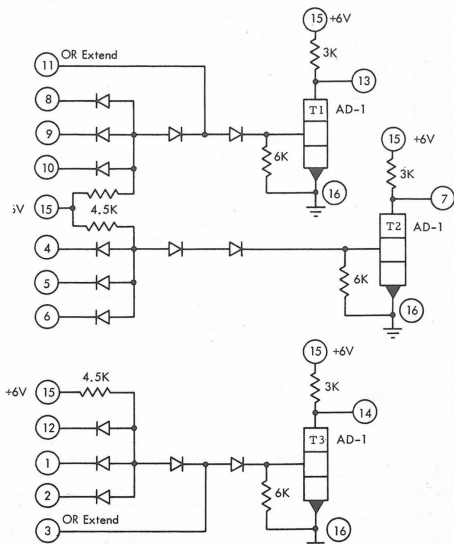
DCI				II		Input Requirements
5.5K to +.6V		5.5K - Float				
V	I-mA	V	I-mA	V	I-mA	
.998	1.23	.934	1.23	6.6	1.33	 Normal Up Level Min Up Level
.765	1.23	.713	1.23	3.82	0.4	
				3.50		
.55	1.40	.55	.02	.55	0	 Normal Down Level Max Allowable Down
0.3	1.45	0.3	.02	.3	0	
0	1.52	0	.02	-3	20µA	
DCI				II		Output Specifications
V = 9 I = 0 V = 6.6 I = 0 V = 5.4 I = 0				V = 9 I = 0 V = 6.6 I = 20 µA V = 5.4 I = 20 µA		
V = 0.3 I = -47.88mA				V = 0.3 I = -17.88mA		
V = 0 I = 0				V = 0 I = 0		 Max Allowable Up Normal Up Level Normal Down Level Max Allowable Down

Above Values to be Used for a Guide Only. See Eng Spec 872194 and 872195

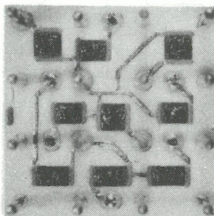
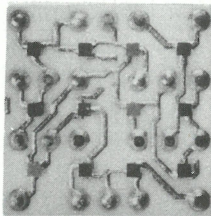


Delays (Worst Case) Nano Seconds

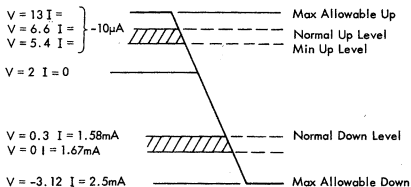
For DCI Only	Temp C°	Ton Delay		Toff Delay	
		DCI	II	DCI	II
R to +V	25	113	188	118	94
R to 0		130		112	



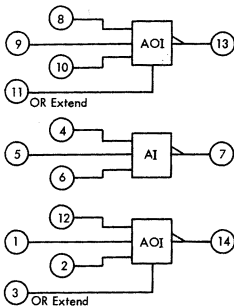
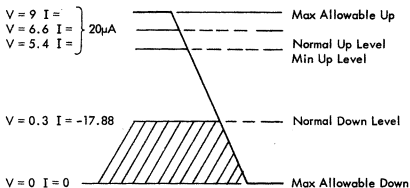
Reference Flyers R03AA, R03AB, R03AC, R03AE



Input Requirements



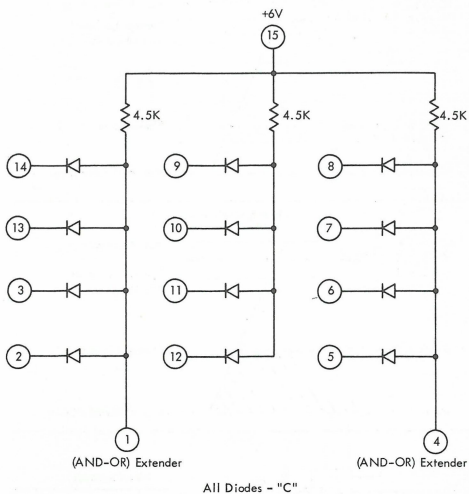
Output Specifications



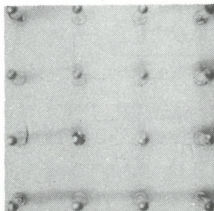
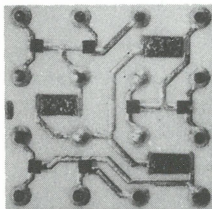
Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	110	60

Engineering Specification
872193



Reference Flyers R03AA



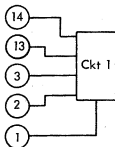
Power Per Ckt		
ma Requirements	mw Dissipation	
0.82	6.73	Nom
1.25	10.91	Max

Input Up

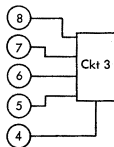
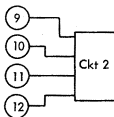
Power Supply +6v

Input Down

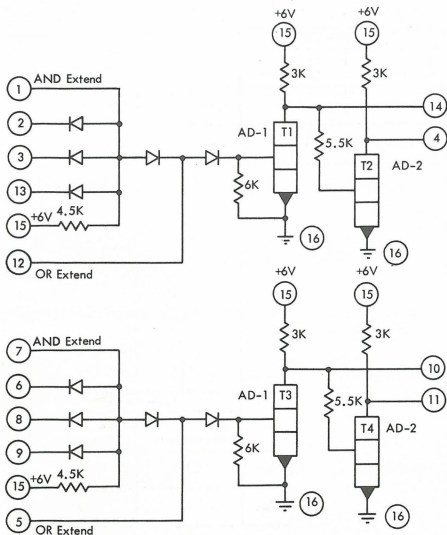
Power Per Ckt		
	ma Requirements	mw Dissipation
Nom	1.13	3.98
Max	1.68	6.93



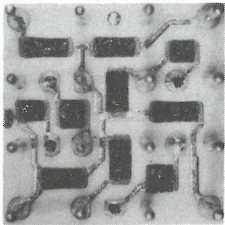
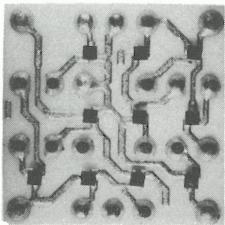
(AND-OR) Extender

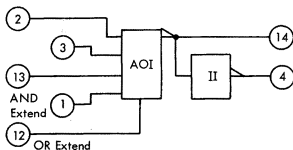
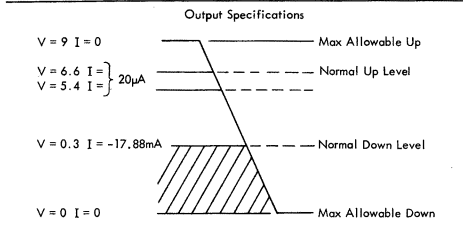
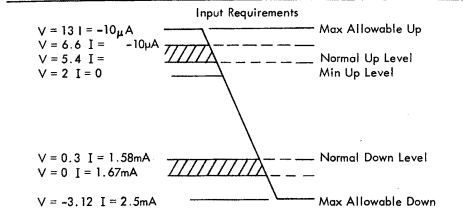


(AND-OR) Entender



Reference Flyers R03AA, R03AB, R03AE, R05AA

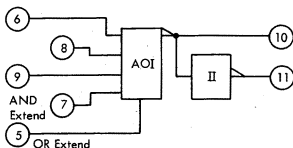


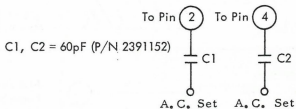
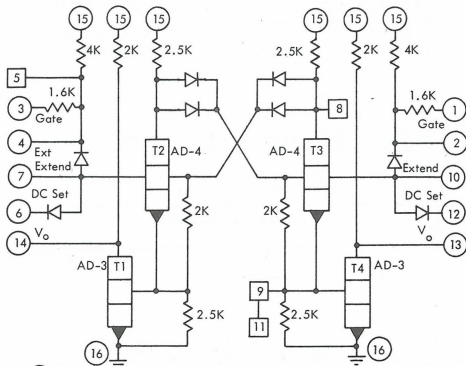


AOI Delays (Worst Case)
Nano Seconds

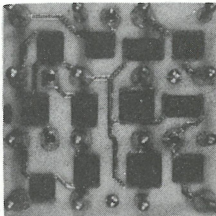
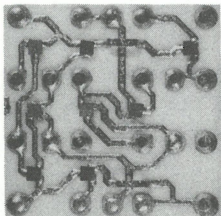
Temp C°	Ton Delay	Toff Delay
25	110	60

Engineering Specification
872193 - 872194



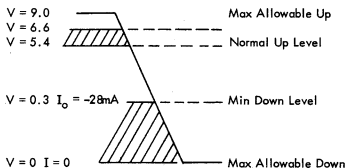


Reference Flyers R20AA, R20AB, R20AC, R20AD.



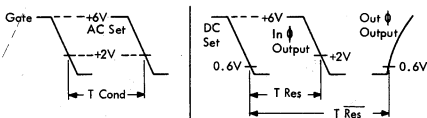
DC Set		Gate		Input Requirements For AC Set *	
V	I	V	IG		
9.0	-10μA	9.0	*		Max Allowable Up
6.6	-10μA	6.6	*		Normal Up Level
5.4		3.4	*		
2.0	*	5.0	*		Min
3.0	2μA	0.3	1.41 mA		Normal Down Level
0	5μA	0.65	1.47 mA		Max Allowable Down
* See Eng Spec 872196					

Output Specifications

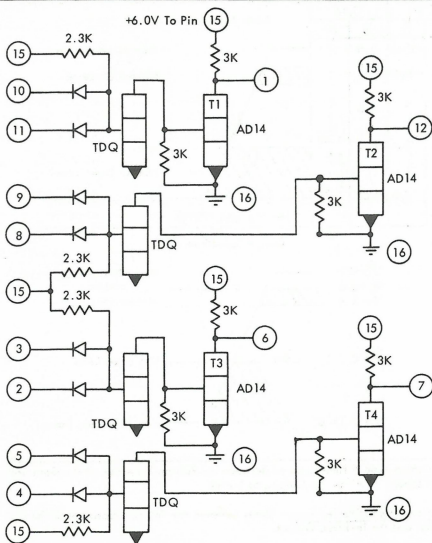


Conditioning Time = Time Required Between the Falling Transition of the Gate and AC Set Inputs, to Allow the Outputs to Switch

Resolution Time of DC Set Input = Delay Between the Falling Transitions of the DC Set Input and the In-Phase Output.

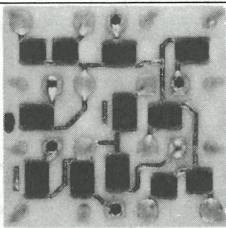
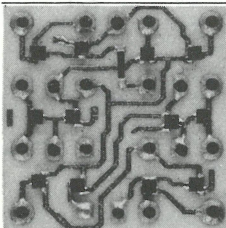


Deconditioning Time = Time Required Between Rising Transition of Gate Input and Falling Transition of AC Set Input to Prevent the Outputs from Switching from 0.6V (Gate) to +2V (AC Set)

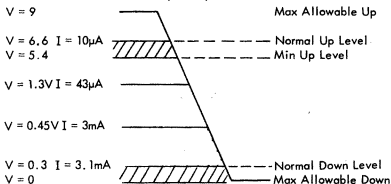


A Diodes

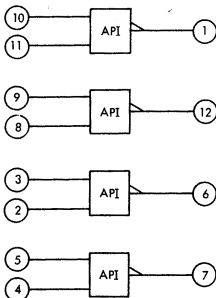
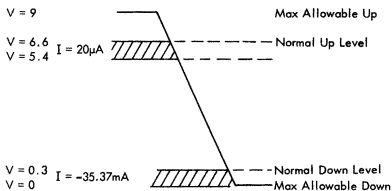
Reference Flyers R03AJ



Input Requirements



Output Specifications

Delays (Worst Case)
Nano Seconds

Temp C°	Ton Delay	Toff Delay
25	54	83

Engineering Specification
2401029

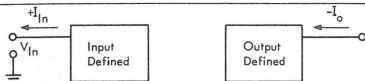
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142 - 144

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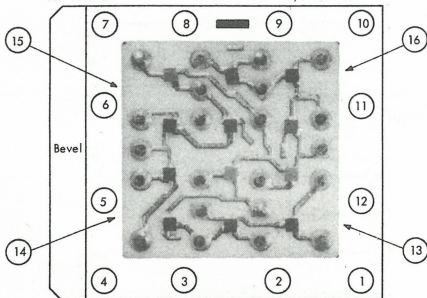
FOR

FUTURE DEVELOPMENT



Common Pins
Pin 15 +12V
Pin 16 Gnd

All Power Supplies 10%
All Diodes
"C" = P/N 5323888



Released Part No.

361416
361417
361418
361419
361420
361421
361422
361490

Title

2 - 5-Way AI
3 - 3A/1A - 2OI
4II/DCI-II
3 - 3-Way - AI
AOX - 3
Trigger
2 x 3-Way AOI-II
TLR

Development Part No.

16A - 0153
16A - 0155
16A - 0156
16A - 0157
16A - 0158
16A - 0159
16A - 0187
16A - 0258

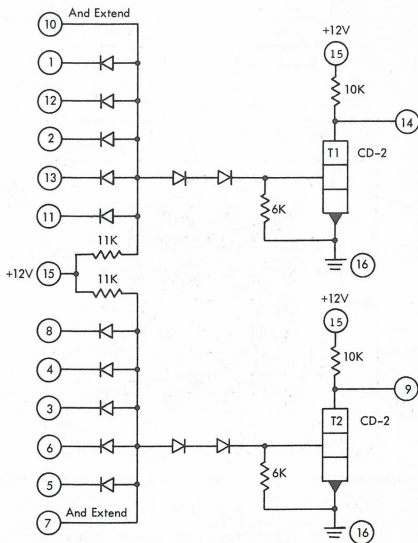
Device Information

Device

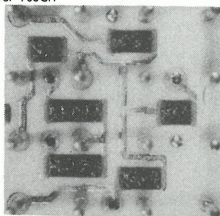
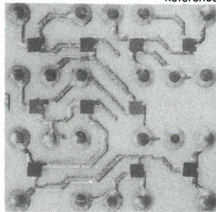
CD-1
CD-3
ADT
CD-2
CDT
AD-11
AD-12
"C" Diode

Part Number

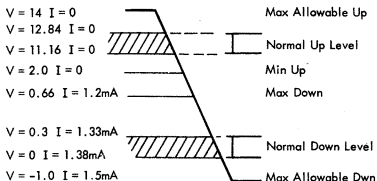
2393085
2393158
2393086
2393087
2393088
2393200
2393201
5323888



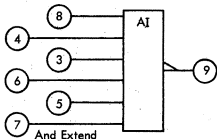
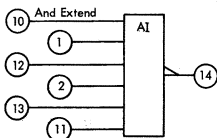
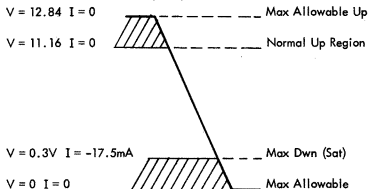
Reference Flyer V03CH



Input Requirement

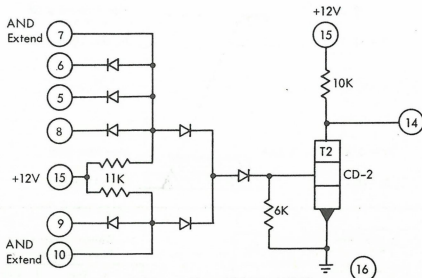
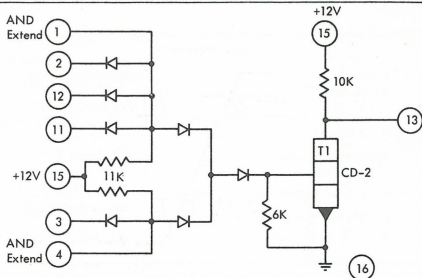


Output Specifications

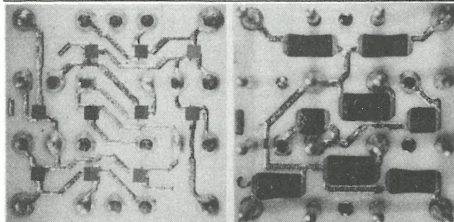
Delays (Worst Case)
Nano Seconds

Temp	Ton Delay	Toff Delay
25°	400	480

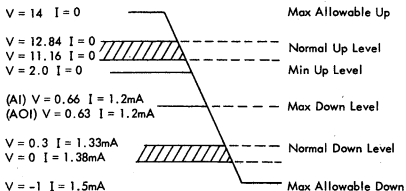
Engineering Specification
873582



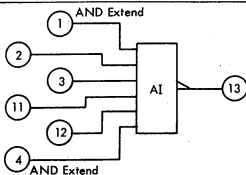
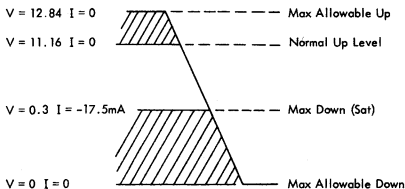
Reference Flyers V03CG, V03CI



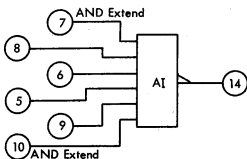
Input Requirements

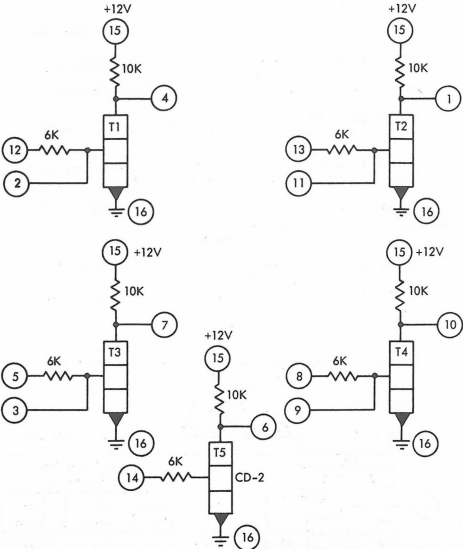


Output Specifications

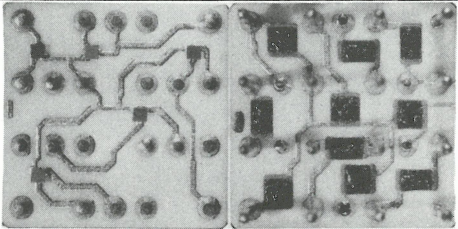
Delays (Worst Case)
Nano Seconds

Temp °C	Ton Delay	Toff Delay
25	400	480

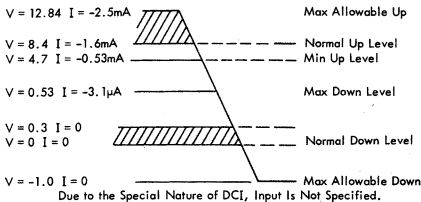
Engineering Specification
873582



Reference Flyer V05AS, V05AT, V05AU All Transistors CD-2



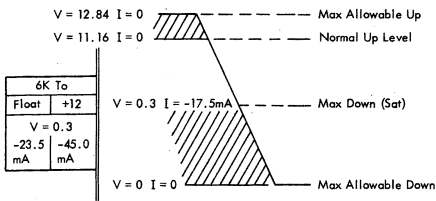
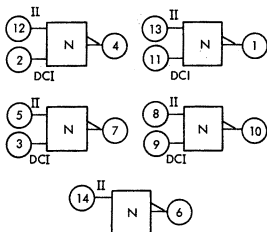
Input Requirements



DCI

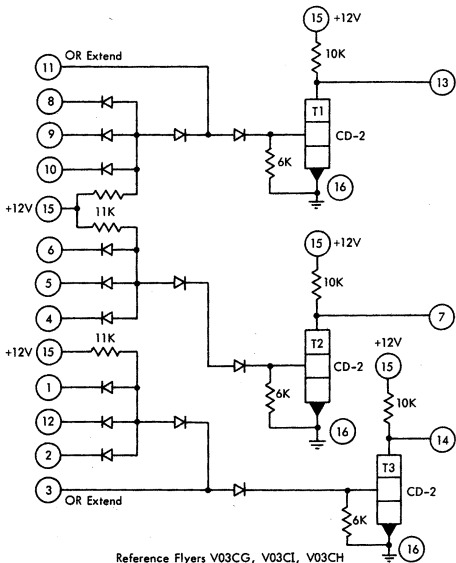
II

Output Specifications

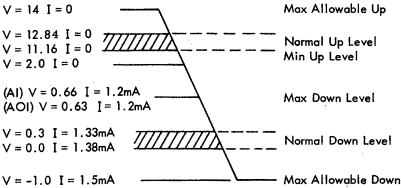
Delays (Worst Case)
Nano Seconds

Temp °C	Ton Delay		Toff Delay	
	DCI	II	DCI	II
25	150	600	140	645

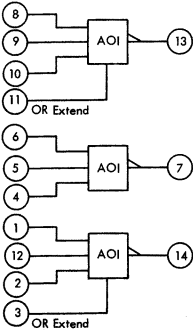
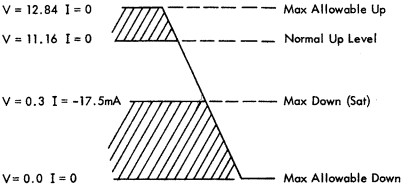
Engineering Specification
873581 - 873584



Input Requirements



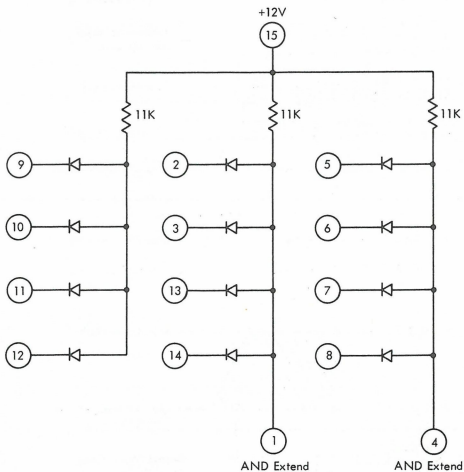
Output Specifications



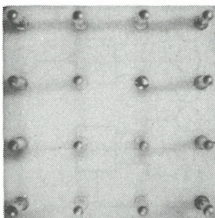
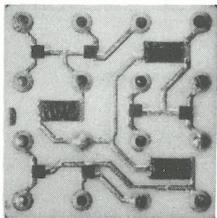
Delays (Worst Case)
Nano Seconds

Temp °C	Ton Delay	Toff Delay
25	400	480

Engineering Specification
873582



Reference Flyer V03CG

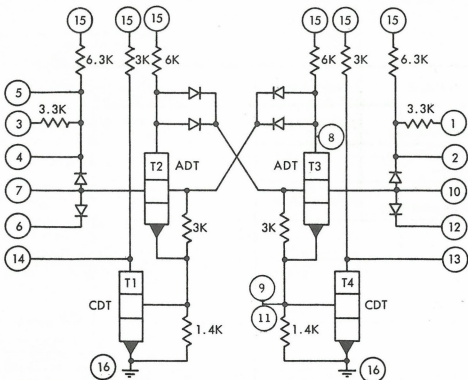


V=+12.0	Nom	Max
Power Required/Mod	2.67mA	3.81mA
Power Dissipated/Mod	33mw	54mw

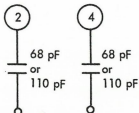
Input Up

	Nom	Max
Power Required/Mod	3.99mA	4.50mA
Power Dissipated/Mod	26.1mw	38.1mw

Input Down

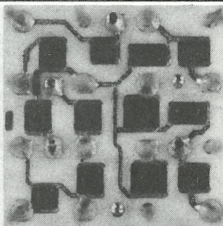
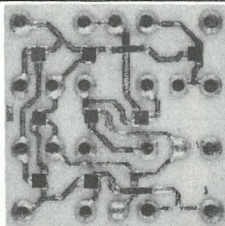


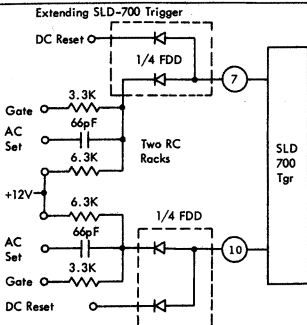
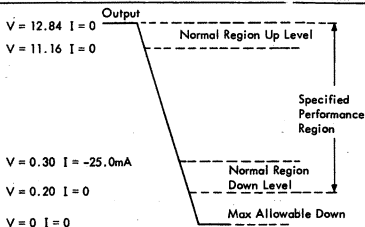
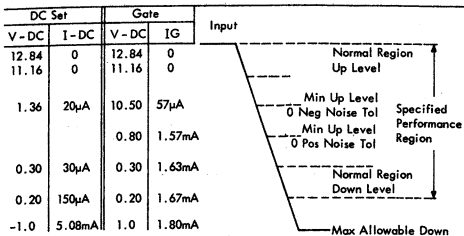
Pin No.	Function
1	Gate "A"
3	Gate "B"
6	DC Set
7	AC and DC Extend
10	AC and DC Extend
12	DC Reset
13	Output "B"
14	Output "A"
15	Power Supply +12.0V
16	Ground



External Cap Part Nos. 350424 or
5301536 or 2391314 or 2391001

Reference Flyers V20AE, V20AF, V20AG, V20AJ-AK-AL, S61PR, S61PS

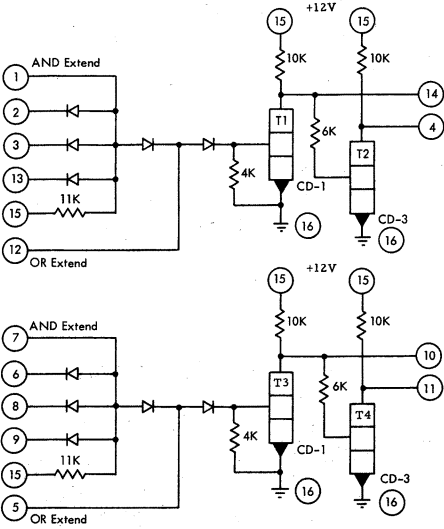




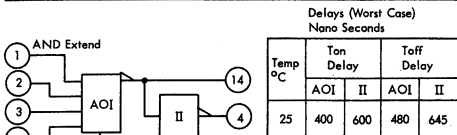
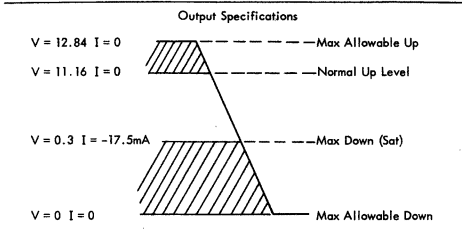
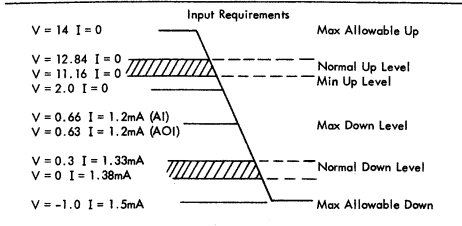
Power Dissipation/Mod
Worst Case AC Set (mw)

Output A = Down	Output B = Down
177.47	177.47
All Trigger Loads AI/AOI Only	
As Binary in mw	
157.43	157.43

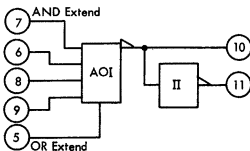
Engineering Specification
873593

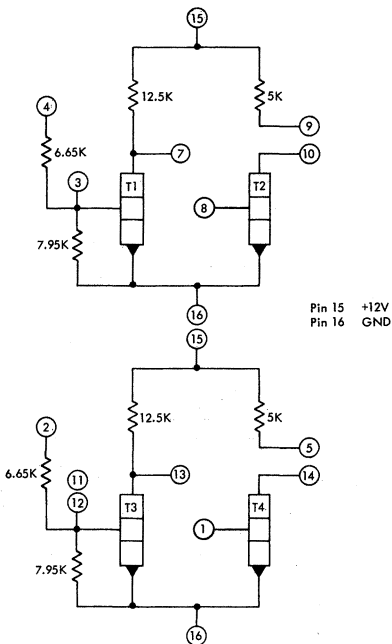


Reference Flyers V03AA, V03CG, V03CT, V03CH, V05AT



Engineering Specification
873582





Reference Engineering Specification 862735

AD-11, AD-12 Devices

Worst Case Delay

(Nano Seconds)

Temp. °C	t On Delay	t Off Delay
+25°	110	80

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162 to 165

AND IS RESERVED

FOR

FUTURE DEVELOPMENT

