

BAX56 to BAX73

ULTRA FAST COMMON ANODE AND COMMON CATHODE ARRAYS

SILICON PLANAR EPITAXIAL DIODES

GENERAL DESCRIPTION—These silicon PLANAR epitaxial diode arrays are designed for high speed core driver applications. They are hermetically sealed in either TO-5 or TO-18 packages. The excellent thermal conductivity of the packages permits operation up to 400 mW.

ABSOLUTE MAXIMUM RATINGS of each diode (Note 1)

Maximum Temperatures

T_{STG}	Storage Temperature	-55°C to +200°C
T_A	Operating Temperature	+175°C Maximum

Maximum Power Dissipation (Note 2)

P	Total Dissipation at 25°C Ambient Temperature	0.4 Watt
---	---	----------

Maximum Voltage ($T_A = 25^\circ\text{C}$ unless otherwise noted)

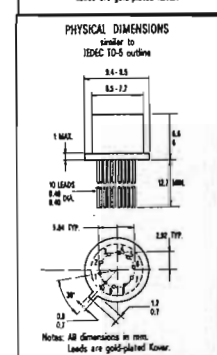
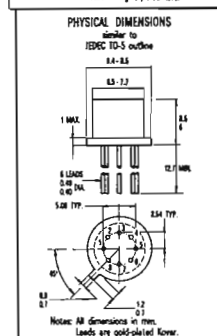
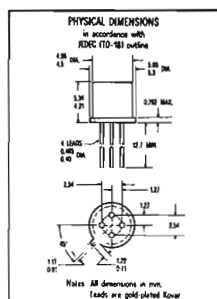
WIV	Working Inverse Voltage	40 Volts
-----	-------------------------	----------

Maximum Currents ($T_A = 25^\circ\text{C}$ unless otherwise noted)

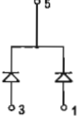
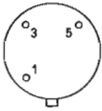
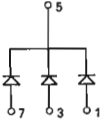
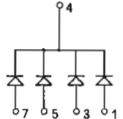
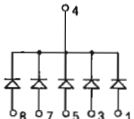
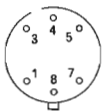
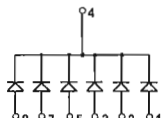
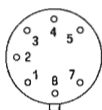
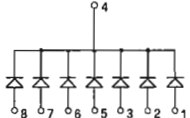
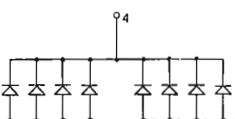
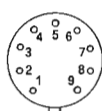
I_F	Forward Continuous DC Current	300 mA
I_O	Average Rectified Current	200 mA
i_F (surge)	Peak Forward Surge Current (1 sec. Pulse Width)	1 Amp.
i_F (surge)	Peak Forward Surge Current (1μsec. Pulse Width)	4 Amps.

ELECTRICAL CHARACTERISTICS of each diode (25°C free air temperature unless otherwise noted)

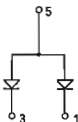
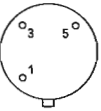
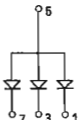
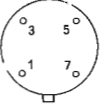
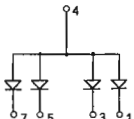
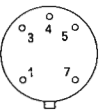
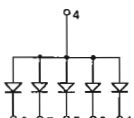
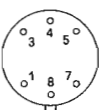
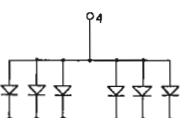
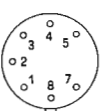
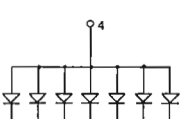
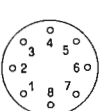
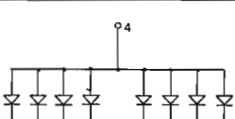
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
V_F	Forward Voltage (Note 3)	0.98	1.15	1.5	V	$I_F = 500 \text{ mA}$
V_F	Forward Voltage (Note 3)	0.94	1.05	1.2	V	$I_F = 300 \text{ mA}$
V_F	Forward Voltage (Note 3)	0.89	0.98	1.1	V	$I_F = 200 \text{ mA}$
V_F	Forward Voltage (Note 3)	0.82	0.88	1	V	$I_F = 100 \text{ mA}$
V_F	Forward Voltage (Note 3)	0.75	0.8	0.9	V	$I_F = 50 \text{ mA}$
V_F	Forward Voltage	0.65	0.68	0.75	V	$I_F = 10 \text{ mA}$
V_F	Forward Voltage	0.63	0.65	0.71	V	$I_F = 5 \text{ mA}$
V_F	Forward Voltage	0.55	0.58	0.66	V	$I_F = 1 \text{ mA}$
I_R	Reverse Current	20	100	nA		$V_R = 40 \text{ V}$
I_R (125°C)	Reverse Current	15	100	μA		$V_R = 40 \text{ V}$
BV	Breakdown Voltage	60		V		$I_R = 100 \text{ μA}$
t_{rr}	Reverse Recovery Time (Note 4)		4	nsec		$I_F = I_R = 10 \div 200 \text{ mA}$
C_o	Capacitance	1.2	3	pF		$V_R = 0 \quad f = 1 \text{ MHz}$



COMMON CATHODE ARRAYS

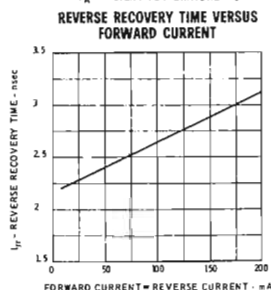
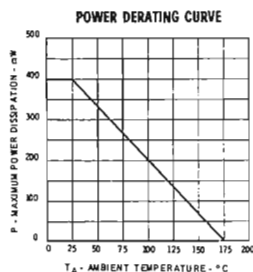
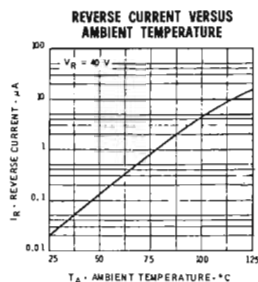
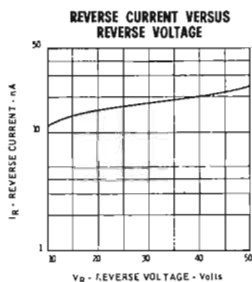
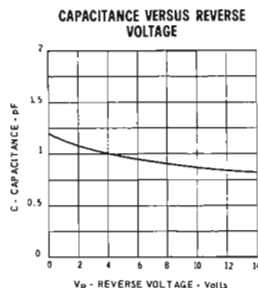
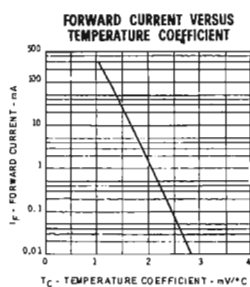
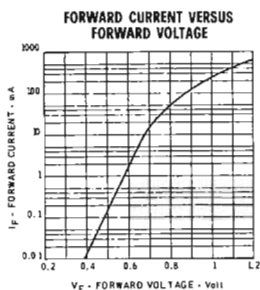
TYPE NUMBER		CIRCUIT CONFIGURATION	PACKAGE CONFIGURATION (bottom view)	
T0-5	T0-18		T0-5	T0-18
BAX 56	BAX 58			AS FOR T0-5
BAX 60	BAX 62			AS FOR T0-5
BAX 65	NONE			NONE
BAX 67	NONE			NONE
BAX 69	NONE			NONE
BAX 71	NONE			NONE
BAX 73	NONE			NONE

COMMON ANODE ARRAYS

TYPE NUMBER		CIRCUIT CONFIGURATION	PACKAGE CONFIGURATION (bottom view)	
TO-5	TO-18		TO-5	TO-18
BAX 57	BAX 59			AS FOR TO-5
BAX 61	BAX 63			AS FOR TO-5
BAX 64	NONE			NONE
BAX 66	NONE			NONE
BAX 68	NONE			NONE
BAX 70	NONE			NONE
BAX 72	NONE			NONE

TYPICAL ELECTRICAL CHARACTERISTICS OF EACH DIODE

(25°C free air temperature unless otherwise noted)



NOTES:

- (1) Ratings apply to individual diodes. For multiple diode operation total power must not exceed dissipation rating listed.
- (2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- (3) Pulse Conditions: length = 300 μ sec; duty cycle = 1%.
- (4) Recovery to 10% of i_R .