

DB3/DB4

Silicon Bidirectional Diacs

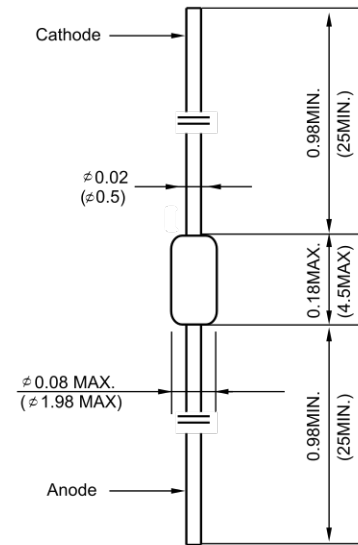
VOLTAGE RANGE: 28-45 V

DO-35



Features

- ◇ The three layer,two terminal,axial lead,hermetically sealed diacs are designed specifically for triggering thyristors.They demonstrate low breakover current at breakover voltage as they withstand peak pulse current,The breakover symmetry is within three volts(DB3,DB4). These diacs are intended for use in thyristors phase control,circuits for lamp dimming, universal motor speed control,and heat control.



ABSOLUTE RATINGS

Dimensions in inches and (millimeters)

Parameters	Symbols	DB3,DB4	UNITS
Power dissipation on printed $T_A=50^{\circ}\text{C}$ circuit (L=10mm)	P_c	150.0	mW
Repetitive peak on-state current $t_p=20\ \mu\text{S}$ $f=120\text{Hz}$	I_{TRM}	2.0	A
Operating junction temperature	T_J	-40--- +125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-40--- +125	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Parameters		Test Conditions		DB3	DB4	UNITS
Breakover voltage (NOTE 1)	V_{BO}	C=22nf(NOTE 2) See FIG.1	Min	28	35	V
			Typ	32	40	
			Max	36	45	
Breakover voltage symmetry	$I+V_{BO}$ I- I- V_{BO} I	C=22nf(NOTE 2) See FIG.1	Max	± 3.0		V
Dynamic breakover voltage (NOTE 1)	$I \pm \Delta V$	$\Delta I=(I_{BO} \text{ to } I_F=10\text{mA})$ See FIG.1	Min	5.0		V
Output voltage (NOTE 1)	V_o	See FIG.2	Min	5.0		V
Breakover current (NOTE 1)	I_{BO}	C=22nf(NOTE 2)	Max	100.0		μA
Rise time (NOTE 1)	t_r	See FIG.3	Typ	1.5		μS
Leakage current (NOTE 1)	I_R	$V_R=0.5 V_{BO}$ See FIG.1	Max	10.0		μA

NOTE: 1.Electrical characteristics applicable in both forward and reverse directions.

2.Connected in parallel with the devices

Ratings and Characteristic Curves

FIG.1--VOLTAGE-CURRENT CHARACTERISTIC CURVE

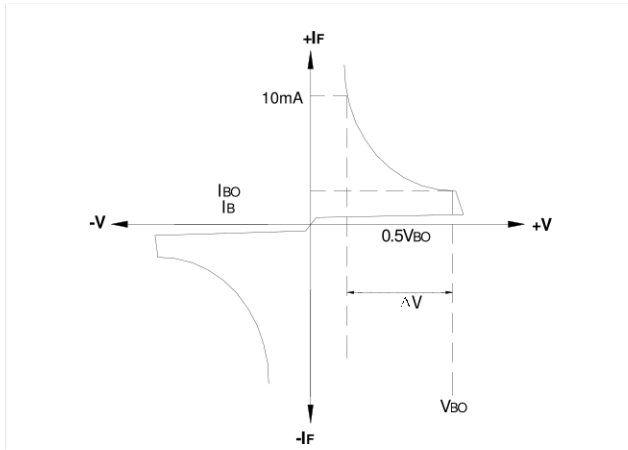


FIG.3-- TEST CIRCUIT SEE FIG.2 ADJUST R FOR $I_P=0.5A$

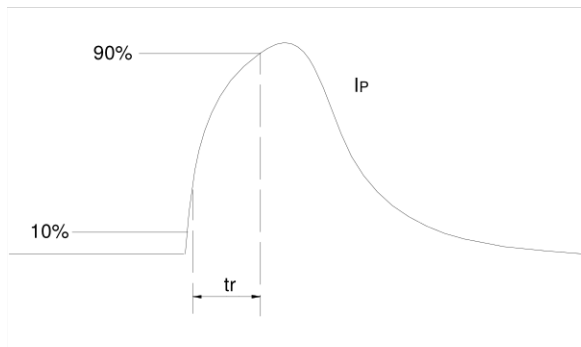


FIG.5--RELATIVE VARIATION OF V_{BO} VERSUS JUNCTION TEMPERATURE(TYPICAL VALUES)

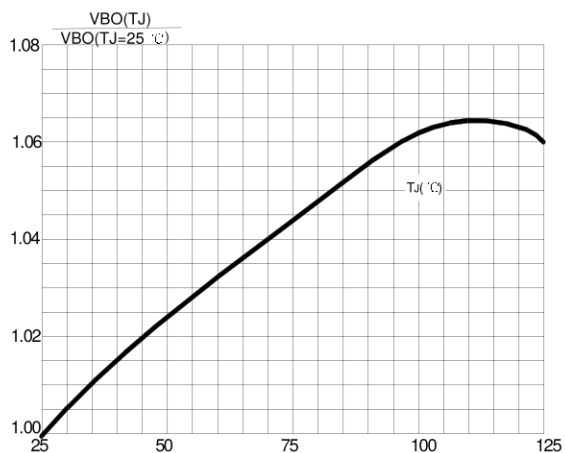


FIG.2--TEST CIRCUIT FOR OUTPUT VOLTAGE

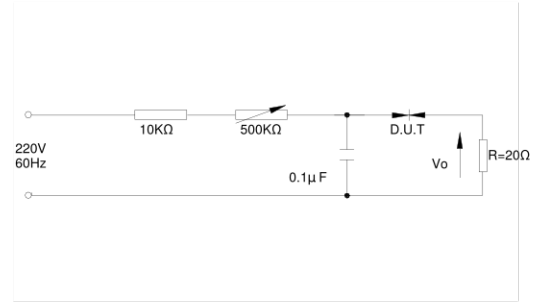


FIG.4--POWER DISSIPATION VERSUS AMBIENT TEMPERATURE (MAXIMUM VALUES)

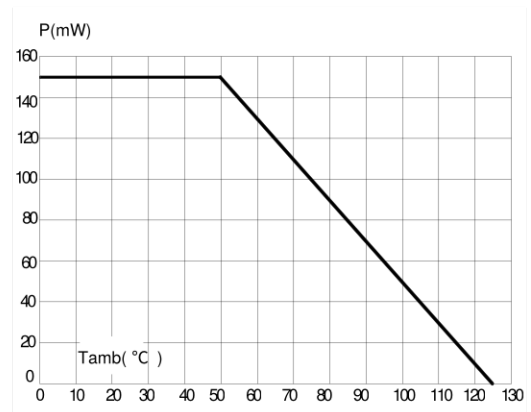


FIG.6--PEAK PULSEE CURRENT VERENT VERSUS PULSE DURATION(MAXIMUM VALUES)

