

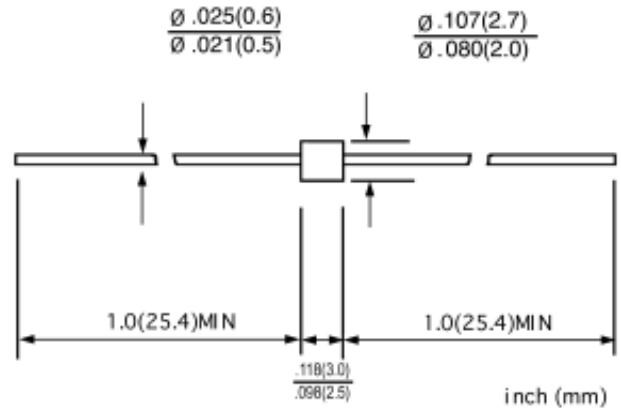
### SILICON BIDIRECTIONAL DIACS

VOLTAGE RANGE: 28-45 V

#### 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.

#### R-1



#### ABSOLUTE RATINGS

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

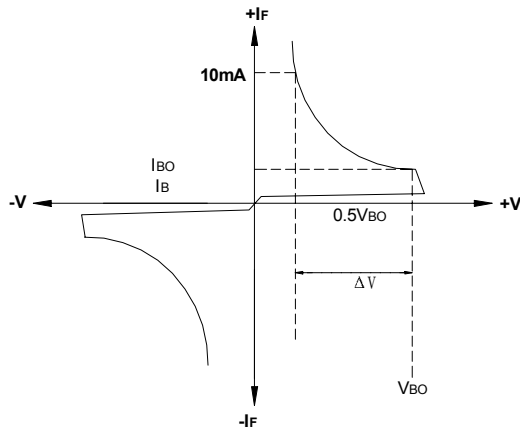
Parameters		Test Conditions	DB3	DB4	UNITS	
Breakover voltage (NOTE 1)	$V_{BO}$	C=22nf(NOTE 2) See FIG.1	Min	28	35	V
			Typ	32	40	
			Max	36	45	
Breakover voltage symmetry	$I+V_{BO}$   $I-V_{BO}$	C=22nf(NOTE 2) See FIG.1	Max	$\pm 3.0$	V	
Dynamic breakover voltage (NOTE 1)	$I \pm \Delta V$	$\Delta I=(I_{BO}$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

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

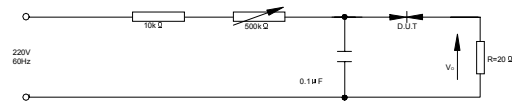
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\*\*Connected in parallel with the devices

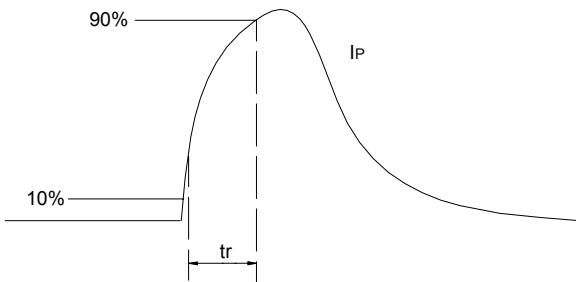
**FIG.1 – VOLTAGE -CURRENT CHARACTERISTIC CURVE**



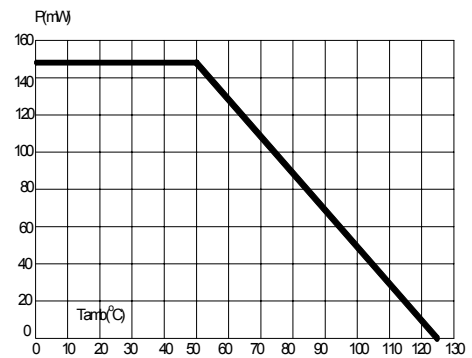
**FIG.2–TEST CIRCUIT FOR OUTPUT VOLTAGE**



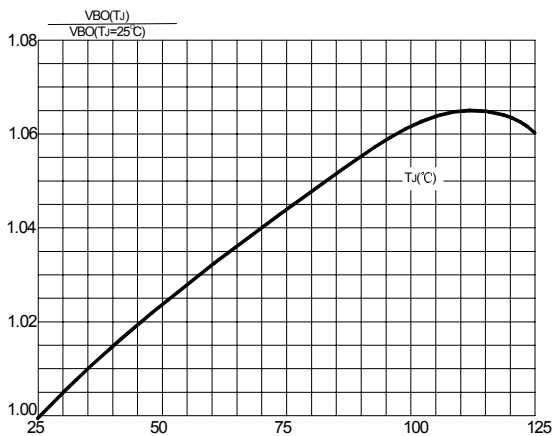
**FIG.3– TEST CIRCUIT SEE FIG.2 ADJUST R FOR  $I_P=0.5A$**



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



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



**FIG.6–PEAK PULSE CURRENT VERENT VERSUS PULSE DURATION(MAXIMUM VALUES)**

