



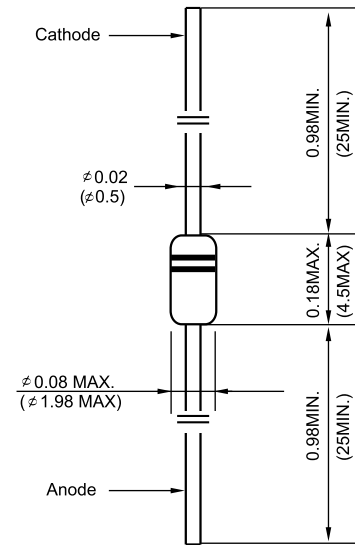
# TIGER ELECTRONIC CO.,LTD

## 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.

Dimensions in inches and (millimeters)

## 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)	$C=22\text{nf}$ (NOTE 2) See FIG.1	Min	28	35	V
		Typ	32	40	
		Max	36	45	
Breakover voltage symmetry	$C=22\text{nf}$ (NOTE 2) See FIG.1	Max	$\pm 3.0$		V
Dynamic breakover voltage (NOTE 1)	$\Delta I=(I_{BO}\text{ to }I_F=10\text{mA})$ See FIG.1	Min	5.0		V
Output voltage (NOTE 1)	See FIG.2	Min	5.0		V
Breakover current (NOTE 1)	$C=22\text{nf}$ (NOTE 2)	Max	100.0		$\mu\text{A}$
Rise time (NOTE 1)	See FIG.3	Typ	1.5		$\mu\text{S}$
Leakage current (NOTE 1)	$V_R=0.5 V_{BO}$ See FIG.1	Max	10.0		$\mu\text{A}$

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

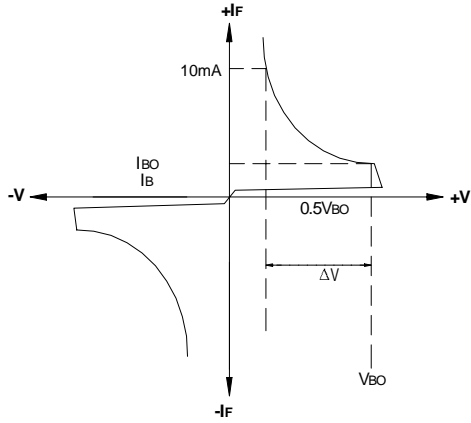
2.Connected in parallel with the devices

# DB3/DB4

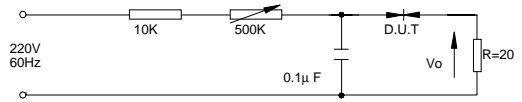
Silicon Bidirectional Diacs

## Ratings and Characteristic Curves

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

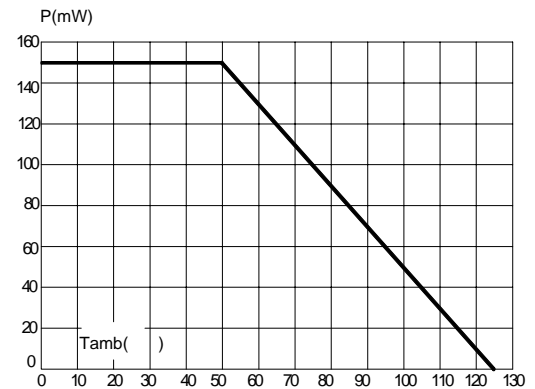
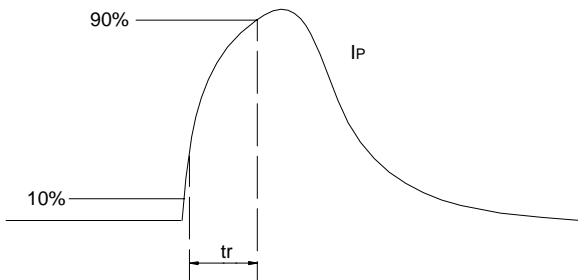


**FIG.2--TEST CIRCUIT FOR OUTPUT VOLTAGE**



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

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



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

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

