

DB-3, DB-4

SILICON BIDIRECTIONAL DIACS

The glass passivated, 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 four volts with a typical breakover voltage of DB-3 32 volts, DB-4 40 volts. These diacs are intended for use in thyristor phase control, circuits for lamp-dimming, universal-motor speed controls, and heat controls.

Semtech's DB-3 and DB-4 are bi-directional trigger diodes designed to operate in conjunction with all of Semtech Electronics' Triacs and SCR's

Storage Temperature T_{STG} - 40°C to +150°C

Operating Temperature T_J - 40°C to +100°C

MAXIMUM RATINGS AT 50°C Ambient

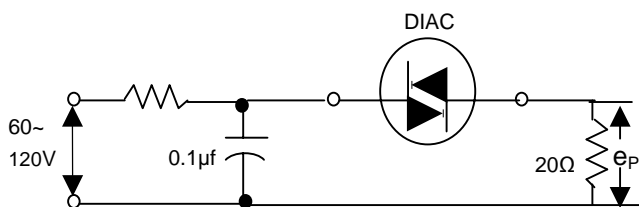
Peak Current (10μ sec duration, 120 cycle repetition rate) $I_P \pm 2$ Amperes Max.

Peak output voltage $e_P 3 \pm$ volts Max*.

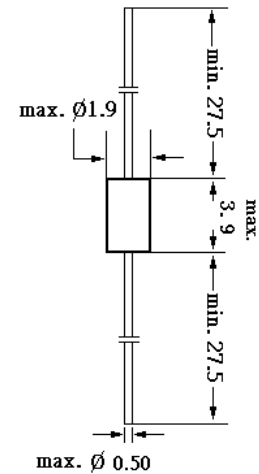
Characteristics at $T_{amb} = 25^\circ C$

Test		Symbol	Min.	Typ.	Max.	Unit
Breakover Voltage	DB-3	$V_{(BR)1}$ and $V_{(BR)2}$	28	32	36	Volts
	DB-4		35	40	45	
Breakover Currents		$I_{(BR)1}$ and $I_{(BR)2}$	-	-	200	μamp
Breakover Voltage Symmetry		$[V_{(BR)1}] - [V_{(BR)2}]$	-	-	3.8	Volts
Dynamic Breakover Voltage $\Delta I = [I_{BR} \text{ to } I_F = 10mA]$		$I \Delta V \pm I$	5	-	-	Volts
Thermal Impedance Junction To Ambient		$R_{\phi JA}$	-	-	60	°C/W

*CIRCUIT FOR PEAK OUTPUT VOLTAGE TEST



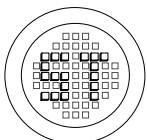
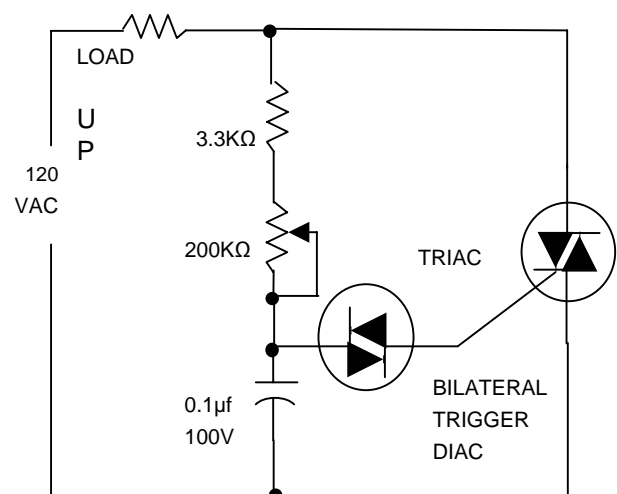
Characteristics at $T_{amb} = 25^\circ C$



Glass case JEDEC DO-35

Dimensions in mm

TYPICAL DIAC-TRIAC FULL-WAVE PHASE CONTROL CIRCUIT



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