DEC

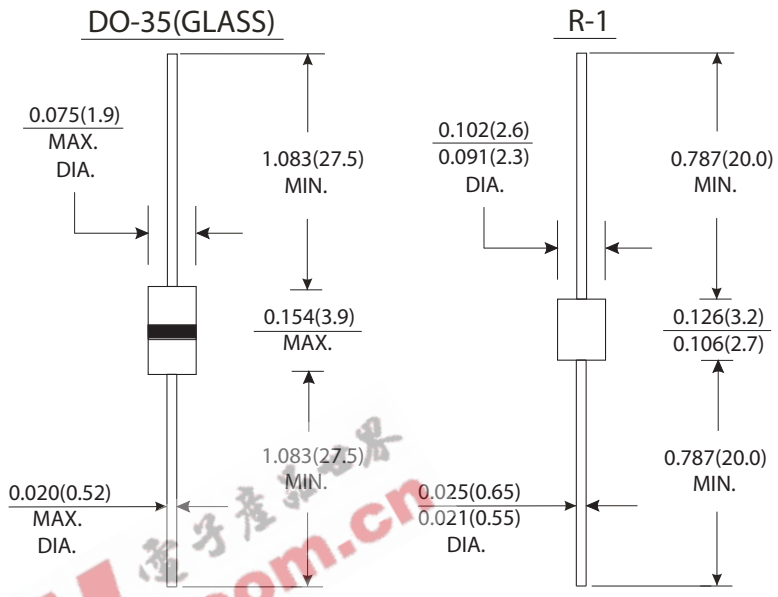
DB3 / DB4

SIGNAL BIDIRECTIONAL DIAC

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. These diacs are intended for use in thyristors phase control, circuits for lamp dimming, universal motor speed control, and heat control

DEC's DB3/DB4 are bi-directional trigged diode designed to operate in conjunction with Triacs and SCR's



Dimensions in inches and (millimeters)

Absolute Ratings (Limiting Values)

Symbols	Parameters		Value		Units
			DB3	DB4	
P_C	Power Dissipation on Printed Circuit(L=10mm)	T_A=50℃	150		mW
I_{TRM}	Repetitive Peak on-state Current	tp=10μs F=100Hz	2.0	2.0	A
T_{STG}/T_J	Storage and Operating Junction Temperature		-40 to +125/-40 to 110		℃

Electrical characteristics

Symbols	Parameters	Test Conditions		Value		Units
				DB3	DB4	
V_{BO}	Breakover Voltage (Note 2)	C=22nF(Note2) See diagram 1	Min	28	35	V
			Typ	32	40	
			Max	36	45	
$\lvert+V_{BO}\rvert-\lvert-V_{BO}\rvert$	Breakover Voltage Symmetry	C=22nF(Note2) See diagram 1	Max	±3		V
$\lvert\pm\triangle V\rvert$	Dynamic Breakover Voltage (Note 1)	△I=(I_{BO} to I_F=10mA) See diagram 1	Min	5		V
V_O	Output Voltage (Note 1)	See diagram 2	Min	5		V
I_{BO}	Breakover Current (Note 1)	C=22nF(Note2)	Max	100		μA
tr	Rise Time (Note 1)	See diagram 3	Typ	1.5		μS
I_B	Leakage Current (Note 1)	V_B=0.5 V_{BO} max see diagram 1	Max	10		μA

Notes:
(1) Electrical characteristics applicable in both forward and reverse directions
(2) Connected in parallel with the devices

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RATINGS AND CHARACTERISTIC CURVES DB3/DB4

DIAGRAM 1 : Current-voltage characteristics

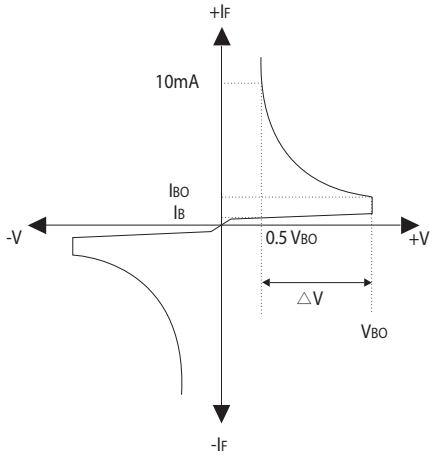

DIAGRAM 2 : Test circuit for output voltage

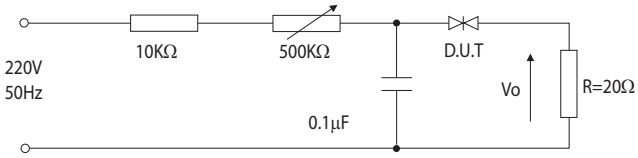

DIAGRAM 3 : Test circuit see diagram2 adjust R for Ip=0.5A

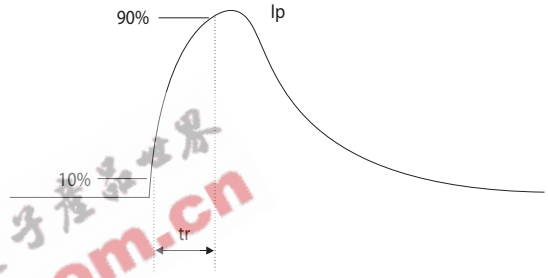

FIG.1-Power dissipation versus ambient temperature (maximum values)

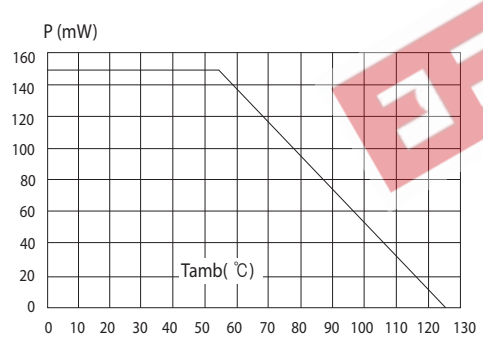

FIG.2-Relative variation of VBO versus junction temperature (typical values)

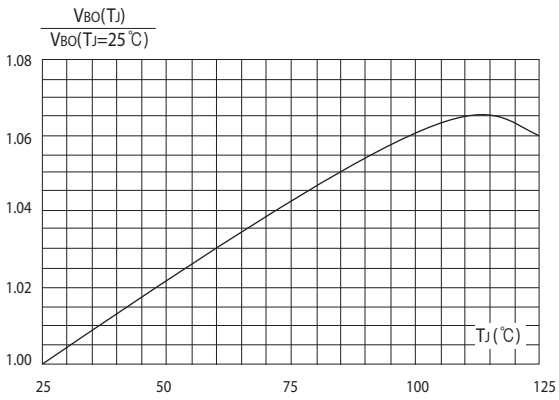

FIG.3-Peak pulse current versus pulse duration (maximum values)