



SEMICONDUCTOR

MCLDB3/MCLDC34/MCLDB4/MCLDB6

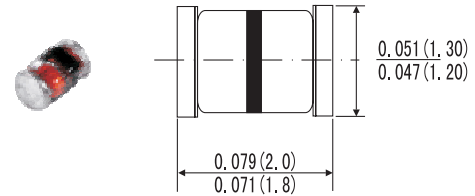
SILICON BIDIRECTIONAL DIAC

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(DB3,DC34,DB4) or four volts(DB6). These diacs are intended for use in thyristors phase control , circuits for lamp dimming, universal motor speed control ,and heat control.
- JF's DB3/DC34/DB4/DB6 are bi-directional triggered diode designed to operate in conjunction with Triacs and SCR's

Micro-MELF



MECHANICAL DATA

- Case: Micro-MELF glass case
- Weight: Approx. 0.03 gram

ABSOLUTE RATINGS(LIMITING VALUES)

Symbols	Parameters	Test Condition	Value				Units
			MCLDB3	MCLDC34	MCLDB4	MCLDB6	
PC	Power Dissipation on Printed Circuit(L=10mm)	T _A =50°C	150				mW
I _{TRM}	Repetitive Peak on-state Current	t _p =10μs F=100Hz	2.0	2.0	2.0	16	A
T _{STG} /T _J	Storage and Operating Junction Temperature		-40 to +125/-40 to 110				°C

ELECTRICAL CHARACTERISTICS

Symbols	Parameters	Test Condition		Value				Units
				MCLDB3	MCLDC34	MCLDB4	MCLDB6	
V _{BO}	Breakover Voltage (Note 2)	C=22nF(Note 2) See diagram 1	Min	28	30	35	56	V
			Typ	32	34	40	60	
			Max	36	38	45	70	
$\frac{ +V_{BO} }{ -V_{BO} }$	Breakover Voltage Symmetry	C=22nF(Note 2) See diagram 1	Max	±3			±4	V
$ \pm \Delta V $	Dynamic Breakover Voltage (Note1)	$\Delta I=(I_{BO} \text{ to } I_F=10mA)$ See Diagram 1	Min	5			10	V
V _O	Output Voltage (Note 1)	See Diagram 2	Min	5				V
I _{BO}	Breakover Current (Note1)	C=22nF(Note 2)	Max	100				μA
t _r	Rise Time (Note1)	See Diagram 3	Typ	1.5				μs
I _B	Leakage Current (Note1)	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.

RATINGS AND CHARACTERISTIC CURVES MCLDB3/MCLDC34/MCLDB4/MCLDB6

DIAGRAM 1: Current-voltage characteristics

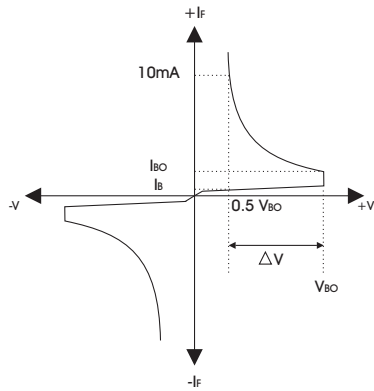


FIG.1-Power dissipation versus ambient temperature (maximum values)

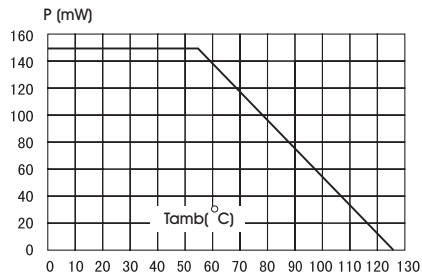


FIG.3-Peak pulse current versus pulse duration (maximum values)

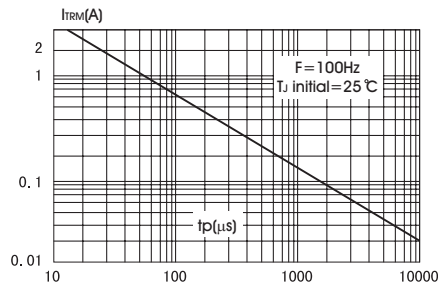


DIAGRAM 2: Test circuit for output voltage

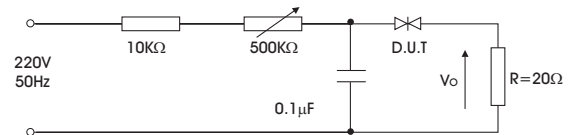


DIAGRAM 3: Test circuit see diagram2 adjust R for I_P=0.5A

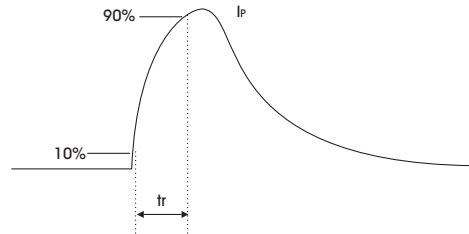


FIG.2-Relative variation of VBO versus junction temperature (typical values)

