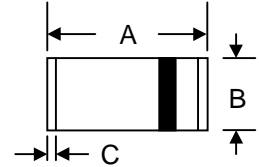


LLDB3/LLDB4

SILICON BIDIRECTIONAL DIACS

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.



Mechanical Data

- Case: MiniMELF Glass Case (SOD-80)
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end
- Weight: 0.05 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**

MiniMELF		
Dim	Min	Max
A	3.30	3.70
B	1.30	1.60
C	0.28	0.50
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$

ABSOLUTE RATINGS						
PARAMETERS	SYMBOL	VALUE		UNITS		
		LLDB3 / LLDB4				
Power Dissipation on Printed Cir cuit(L=10mm) $T_A=50^\circ\text{C}$	P_c	150		mW		
Repetitive Peak on-state Current $T_p=10\mu\text{s}$ $f=100\text{Hz}$	I_{TRM}	2.0		A		
Storage and Operating Junction Temperature	T_{STG}/T_J	-40 to +125		$^\circ\text{C}$		
ELECTRICAL CHARACTERISTICS						
PARAMETERS	SYMBOLS	TEST CONDITIONS	VALUE		UNITS	
			LLDB3	LLDB4		
Breakover Voltage*	V_{BO}	C=22nf** See Diagram 1	Min	28	35	V
			Typ	32	45	
			Max	36	45	
Breakover Voltage Symmetry	$1+V_{BO1}$ $1-V_{BO1}$	C=22nf** See Diagram 1	Max	± 3		V
Dynamic Breakover Voltage	$1 \pm \Delta V_1$	$\Delta I = (I_{BO} \text{ to } I_F = 10\text{mA})$ See FIG 1	Min	5		V
Output Voltage*	V_O	See FIG 2	Min	5		V
Breakover Current*	I_{BO}	C=22nf**	Max	100		μA
Rise Time*	t_r	See FIG 3	Typ	1.5		μs
Leakage Current*	I_B	$I_B = 0.5 V_{BO} \text{ MAX}$ See FIG 3	Max	10		μA

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

** Connected in parallel with the devices.

LLDB3/LLDB4

FIG.1-CURRENT-VOLTAGE CHARACTERISTICS

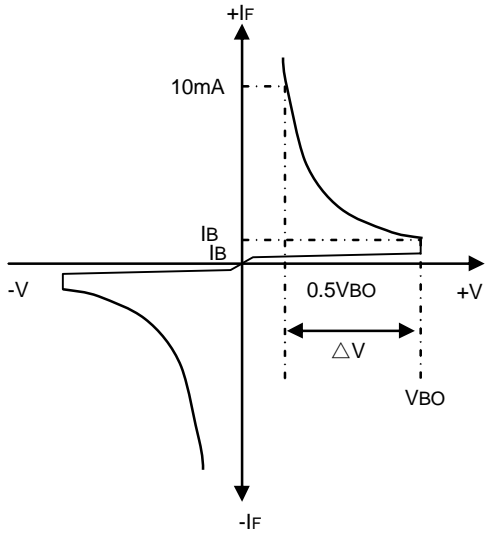


FIG.2-TEST CIRCUIT FOR OUTPUT VOLTAGE

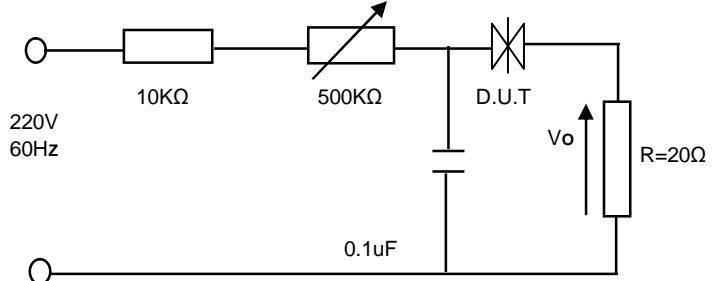


FIG.3-TEST CIRCUIT SEE FIG.2 ADJUST R FOR $I_p=0.5A$

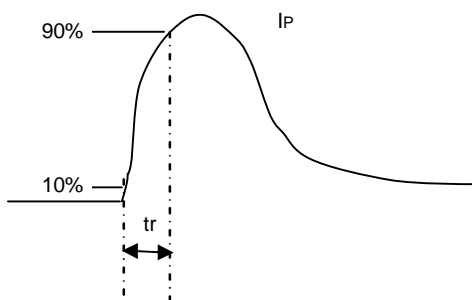


FIG.4-TEST CIRCUIT FOR OUTPUT

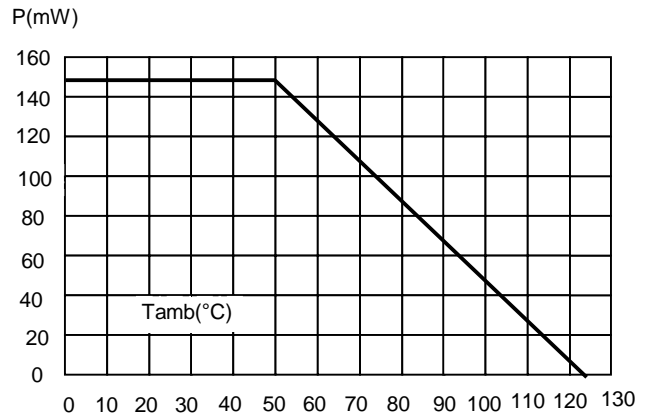


FIG.5-RELATIVE VARIATION OF V_{BO} VERSUS JUNCTION TEMPERATURE (TYPICAL VALUES)

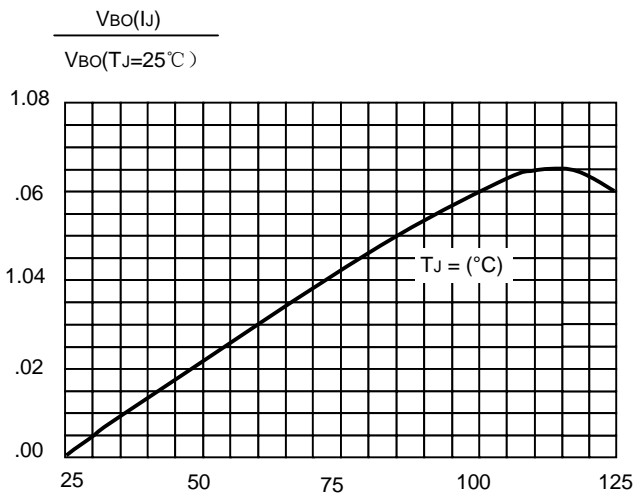
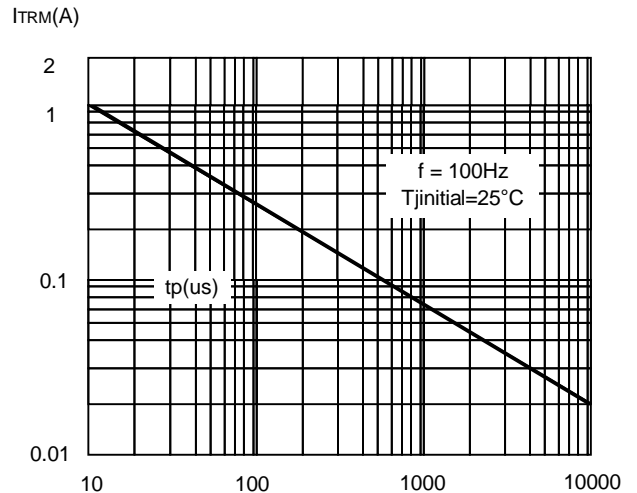


FIG.6-PEAK PULSE CURRENT VERSUS PULSE DURATION (MAXIMUM VALUES)



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