



SEMICONDUCTOR

# LLDB3/LLDC34/LLDB4/LLDB6

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

## MECHANICAL DATA

- Case: Mini-MELF glass case(SOD-80)
- Weight: Approx. 0.05 gram

## ABSOLUTE RATINGS(LIMITING VALUES)

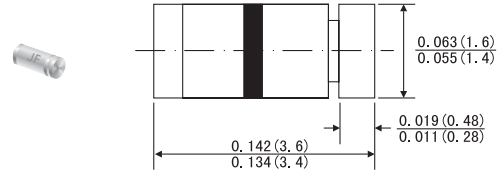
Symbols	Parameters	Value	Value				Units
			LLDB3	LLDC34	LLDB4	LLDB6	
PC	Power Dissipation on Printed Circuit(L=10mm) T <sub>A</sub> =50°C	150					mW
I <sub>TRM</sub>	Repetitive Peak on-state Current t <sub>p</sub> =10μs F=100Hz	2.0	2.0	2.0	16		A
T <sub>STG</sub> /T <sub>J</sub>	Storage and Operating Junction Temperature	-40 to +125/-40 to 110					°C

## ELECTRICAL CHARACTERISTICS

Symbols	Parameters	Test Condition	Value				Units	
			LLDB3	LLDC34	LLDB4	LLDB6		
V <sub>BO</sub>	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	
$\left  \frac{+V_{BO}}{-V_{BO}} \right $	Breakover Voltage Symmetry	C=22nF(Note 2) See diagram 1	Max	±3		±4	V	
$\left  \pm \Delta V \right $	Dynamic Breakover Voltage (Note1)	ΔI=(I <sub>BO</sub> to I <sub>F</sub> =10mA) See Diagram 1	Min	5		10	V	
V <sub>O</sub>	Output Voltage (Note 1)	See Diagram 2	Min	5			V	
I <sub>BO</sub>	Breakover Current (Note1)	C=22nF(Note 2)	Max	100			μA	
t <sub>r</sub>	Rise Time (Note1)	See Diagram 3	Typ	1.5			μs	
I <sub>B</sub>	Leakage Current (Note1)	V <sub>B</sub> =0.5 V <sub>BO</sub> 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.

## Mini-MELF



Dimensions in inches and (millimeters)

# RATINGS AND CHARACTERISTIC CURVES LLDB3/LLDC34/LLDB4/LLDB6

DIAGRAM 1: Current-voltage characteristics

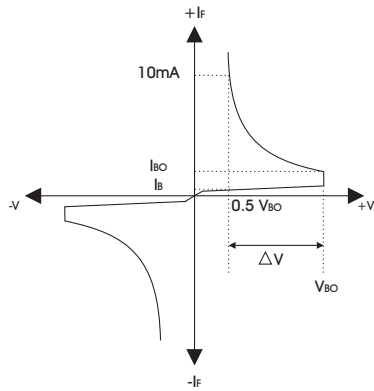


FIG.1-Power dissipation versus ambient temperature (maximum values)

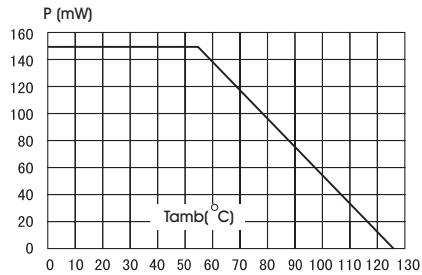


FIG.3-Peak pulse current versus pulse duration (maximum values)

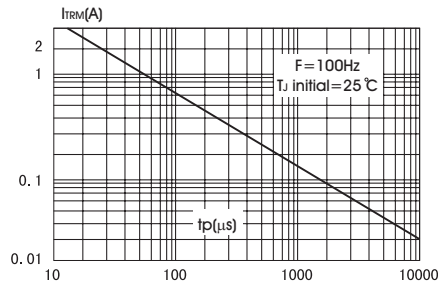


DIAGRAM 2: Test circuit for output voltage

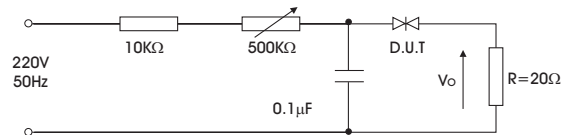


DIAGRAM 3: Test circuit see diagram2 adjust R for  $I_P=0.5A$

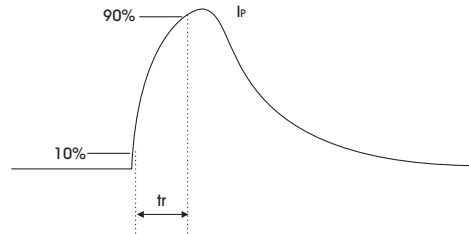
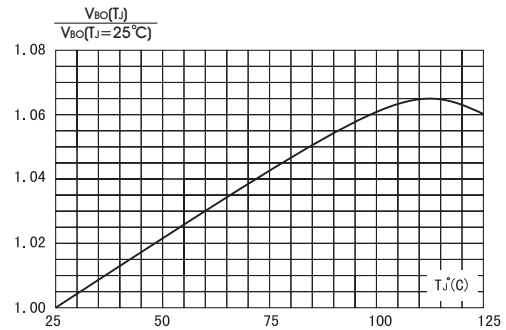


FIG.2-Relative variation of VBO versus junction temperature (typical values)



DIAC