

LLDB3,LLDC34,LLDB4,LLDB6

SILICON BIDIRECTIONAL DIAC



VOLTAGE

28-56Volts

DISSIPATION

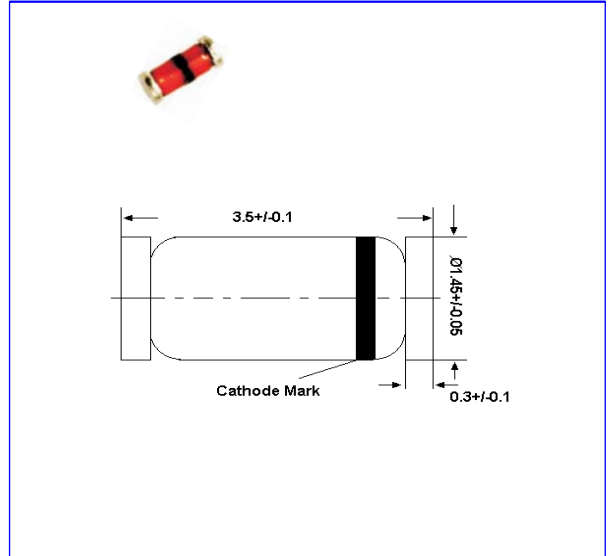
150mWatts

LL-34

Unit:Inch(mm)

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.
- NH's DB3/DC34/DB4/DB6 are bi-directional triggered diode designed to operate in conjunction with Triacs and SCR's
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



MECHANICAL DATA

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

ABSOLUTE MAXIMUM RATINGS

Symbols	Parameters	Value	Value				Units
			LLDB3	LLDC34	LLDB4	LLDB6	
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	1.6				A
T _{STG} /T _J	Storage and Operating Junction Temperature	-40 to+125				°C	

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbols	Parameters	Test Condition	Value				Units	
			LLDB3	LLDC34	LLDB4	LLDB6		
V _{BO}	Breakover Voltage (Note 2)	C=22nF(Note 2) See diagram 1	Min Typ Max	28 32 36	30 34 38	35 40 45	56 60 70	V
+V _{BO} - -V _{BO}	Breakover Voltage Symmetry	C=22nF(Note 2) See diagram 1	Max	±3		±4		V
± ΔV	Dynamic Breakover Voltage (Note1)	ΔI=(I _{BO} 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 _e =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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RATING AND CHARACTERISTIC CURVES
(TA=25°C (UNLESS OTHERWISE NOTED))

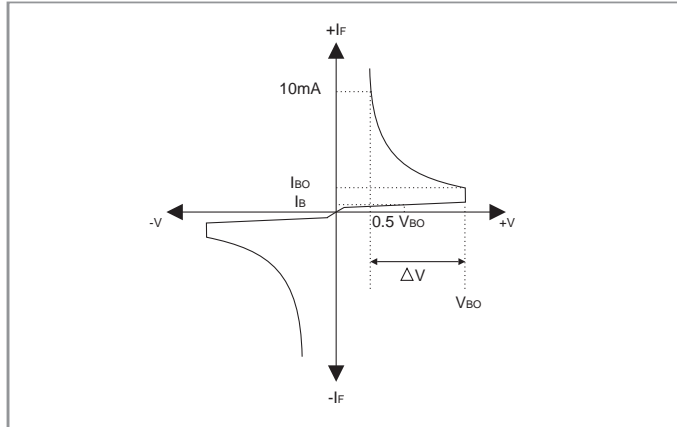


DIAGRAM 1: Current-voltage characteristics

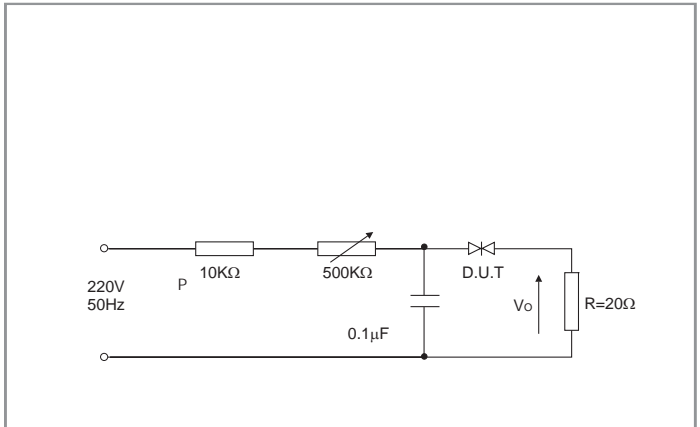


DIAGRAM 2: Test circuit for output voltage

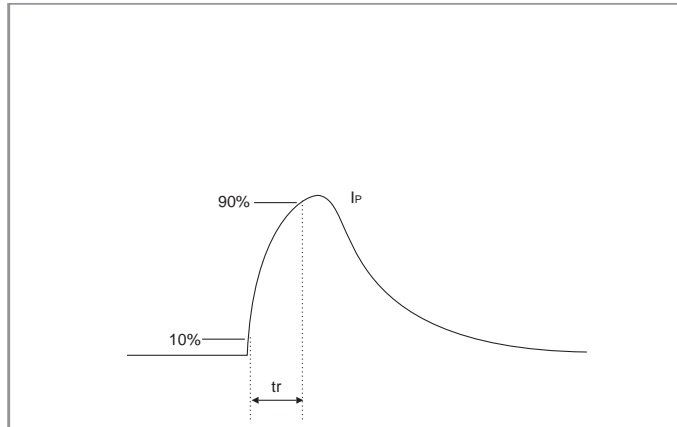


DIAGRAM 3: Test circuit see diagram 2 adjust R for I = 0.5A

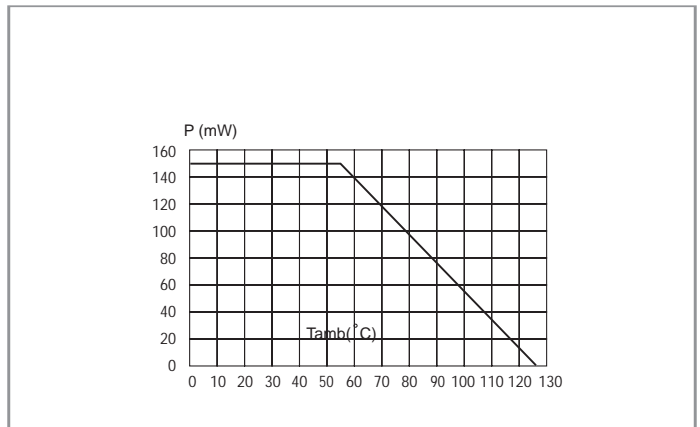


FIG.1-Power dissipation versus ambient temperature (maximum values)

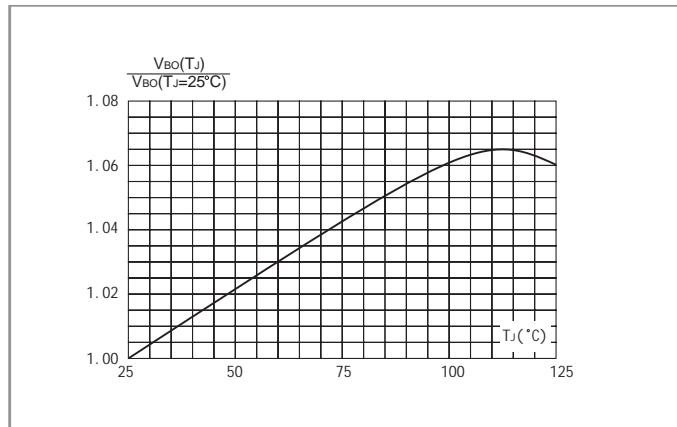


FIG.2-Relative variation of VBO versus junction temperature (typical values)

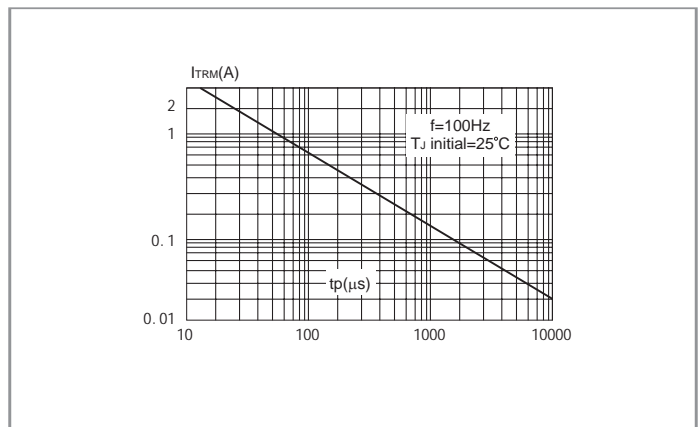


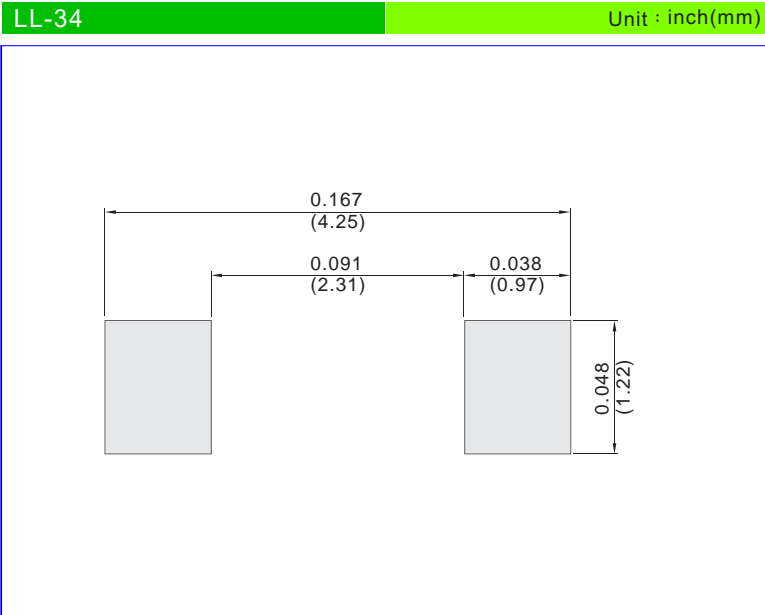
FIG.3-Peak pulse current versus pulse duration (maximum values)

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MOUNTING PAD LAYOUT



ORDER INFORMATION

• Packing information

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)
LL-34	T/R	Φ180	3000	180×70×185	5	370×190×425	12

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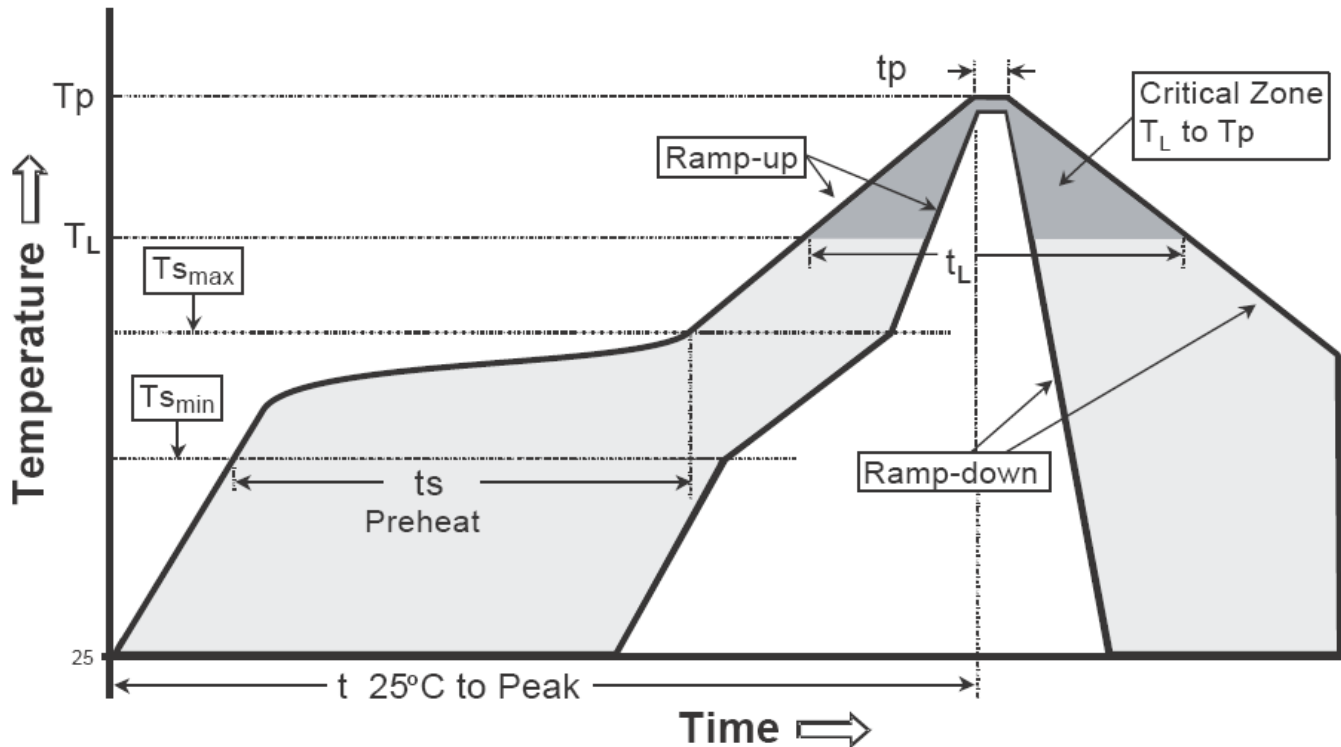
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(ts min to ts max)	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T _L)	183°C	217°C
- Time (t _L)	60-150 seconds	60-150 seconds
Peak Temperature(T _P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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