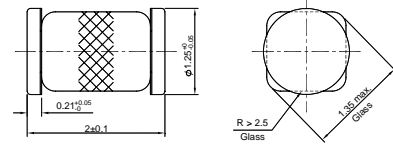


# MCLDB3, MCLDB4

## Silicon Bidirectional Trigger Diodes

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

LS-31



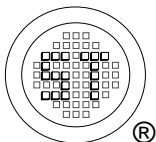
Glass Case Micro MELF  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation ( $T_a = 65\text{ }^\circ\text{C}$ )	$P_{\text{tot}}$	150	mW
Repetitive Peak On-state Current ( $t_p = 20\text{ }\mu\text{s}$ , $f = 100\text{ Hz}$ )	$I_{\text{TRM}}$	2	A
Operating Junction and Storage Temperature Range	$T_j, T_{\text{stg}}$	- 40 to + 125	$^\circ\text{C}$

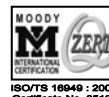
### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
Breakover Voltage at $C = 22\text{ nF}$ , see diagram 1	$V_{\text{BO}}$	MCLDB3	28	36	V
		MCLDB4	35	45	
Breakover Voltage Symmetry at $C = 22\text{ nF}$ , see diagram 1	$[ +V_{\text{BO}}  -  -V_{\text{BO}} ]$	-	3	V	
Dynamic Breakover Voltage at $\Delta I = [I_{\text{BO}} \text{ to } I_{\text{F}} = 10\text{ mA}]$	$ \Delta V_{\pm} $	5	-	V	
Output Voltage See diagram 2	$V_{\text{O}}$	5	-	V	
Breakover Current at $C = 22\text{ nF}$	$I_{\text{BO}}$	-	50	$\mu\text{A}$	
Leakage Current at $V_{\text{B}} = 0.5 V_{\text{BO max}}$	$I_{\text{B}}$	-	10	$\mu\text{A}$	
Rise Time See diagram 3	$t_r$	-	2	$\mu\text{s}$	



**SEMTECH ELECTRONICS LTD.**

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Dated : 08/08/2009

# MCLDB3, MCLDB4

Diagram 1: Current-voltage characteristics

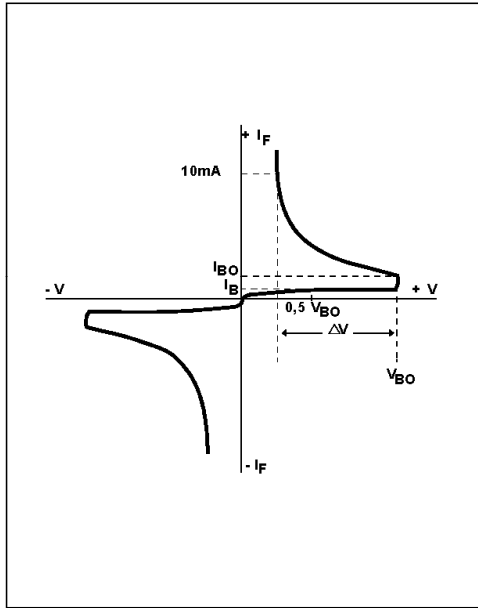


Diagram 2: Test circuit for output voltage

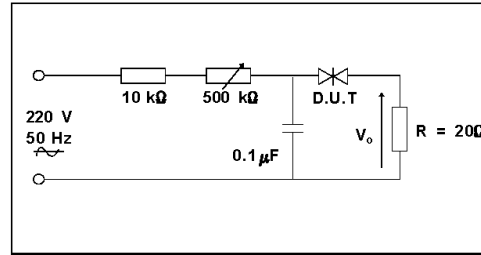


Diagram 3: Test circuit see diagram 2. Adjust R for  $I_p=0.5A$

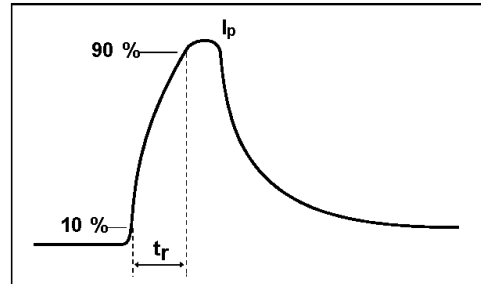


Fig. 1: Power dissipation versus ambient temperature (maximum values)

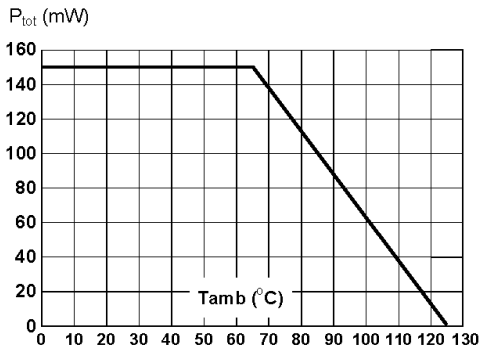


Fig. 2: Relative variation of  $V_{BO}$  versus junction temperature (typical values)

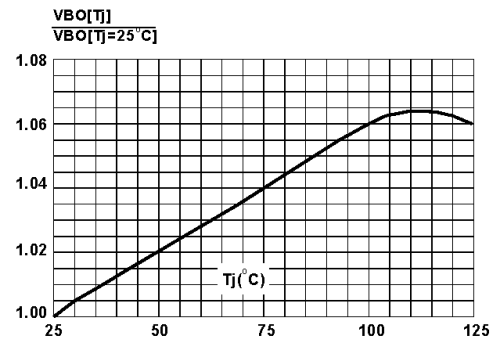
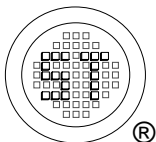
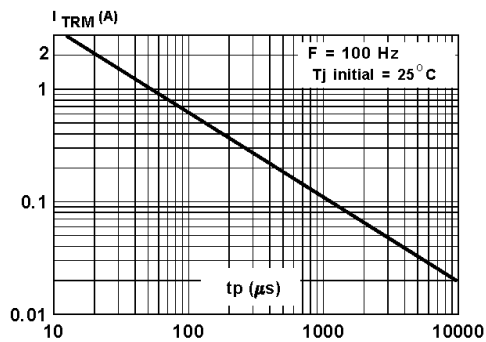


Fig. 3: Peak pulse current versus pulse duration (maximum values)



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