

Small Signal Product

400mW Trigger Diode (DIAC)

FEATURES

- Surface Mount Device SOD-123 packaged
- $V_{BO}=32V$ DB3
- Max. $P_D=400mW$

MECHANICAL DATA

- Case: Plastic gull wing SOD-123 package
- High temperature soldering guaranteed: 260°C/10s
- Weight: 10.55mg (approximately)
- Moisture sensitivity level (MSL): 1
- Pb free and RoHS compliant



SOD-123



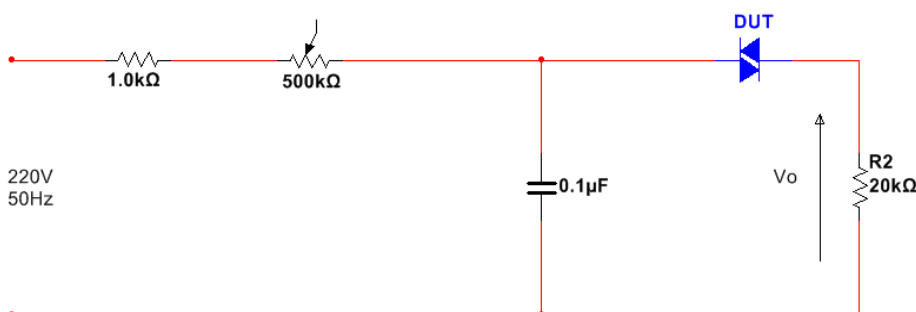
APPLICATION

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}C$ unless otherwise noted)				
PARAMETER	SYMBOL	VALUE	UNIT	
Repetitive Peak on-state Current $t_p=20\mu s, f=100Hz$	I_{TRM}	2	A	
Power Dissipation	P_D	400	mW	
Junction Temperature	T_J	- 40 to +125	$^{\circ}C$	
Storage Temperature Range	T_{STG}	- 40 to +125	$^{\circ}C$	

PARAMETER	SYMBOL	MIN	TYP	MAX	TEST CONDITION	UNIT
Reverse Breakdown Voltage	V_{BO}	28	32	36	$C=22nF$	V
		30	32	34		
Breakdown Voltage Symmetry	$\left[\frac{I_{+V_{BO1}}}{I_{-V_{BO2}}} \right]$			± 3	$C=22nF$	V
				± 2		
Dynamic Breakdown Voltage	$ \Delta V_{\pm} $	5			$\Delta I=[I_{BO} \text{ to } I_F=10mA]$	V
		9				
Repetitive Peak on-state Current	I_{TRM}	2			$t_p=20\mu s, f=100Hz$	A
Output Voltage	V_O	5			Note	V
Leakage Current	I_R	-		10	$V_B = 0.5V_{BO}$	μA
Rest Time	t_r		1.5			μs
Breakdown current	I_{BO}			100	$C=22nF$	μA
		-		15		

Note: Test circuit for output voltage



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RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1 Relative variation of V_{BO} vs. junction temperature

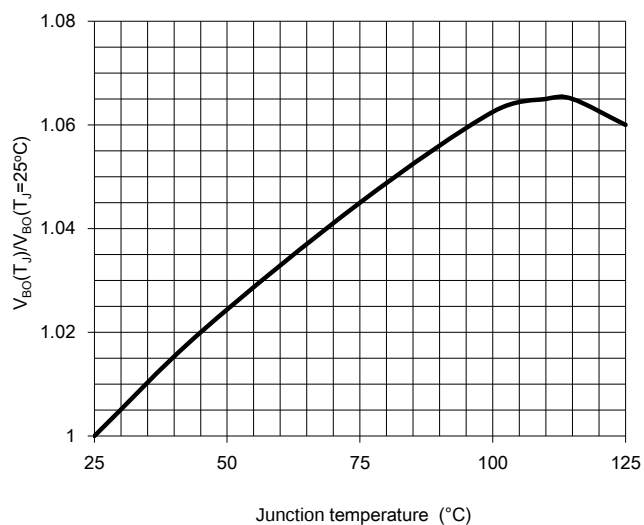


Fig. 2 Power derating curve

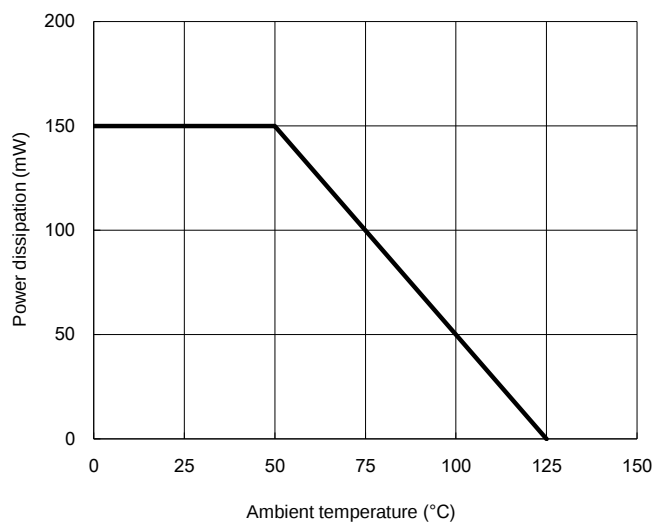
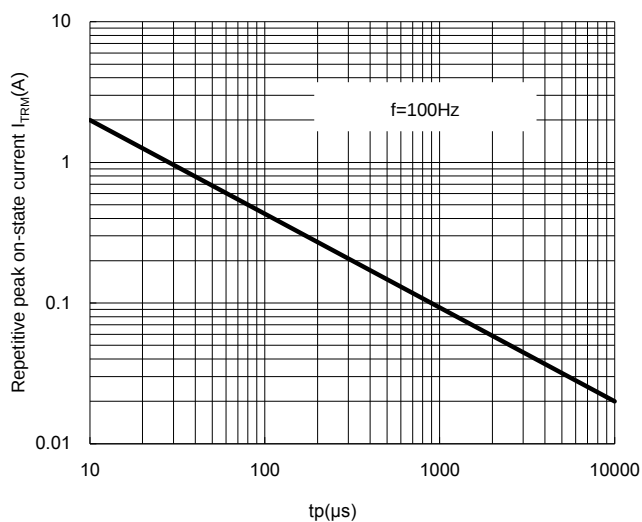


Fig. 3 Peak pulse current vs. pulse duration



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ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
SODDBxx (Note 1, 2)	RH	G	SOD-123	3K / 7" Reel

Note 1: "x" is Device Code from "3" - "3T".

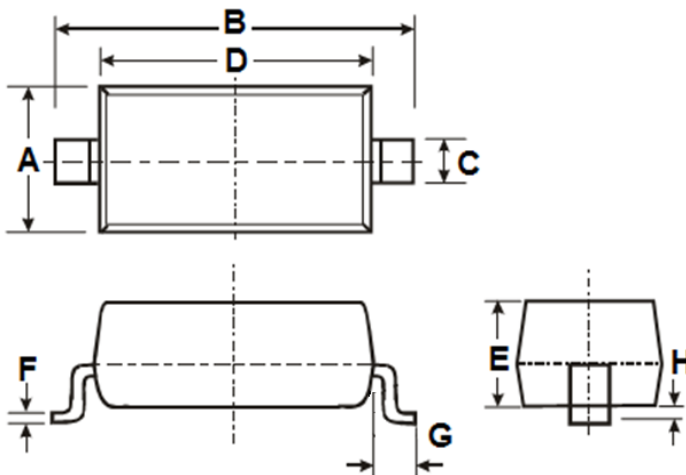
Note 2: Whole series with green compound

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SODDB3 RHG	SODDB3	RH	G	Green compound

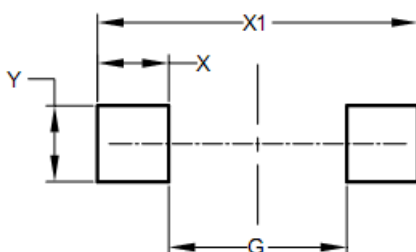
PACKAGE OUTLINE DIMENSIONS

SOD-123



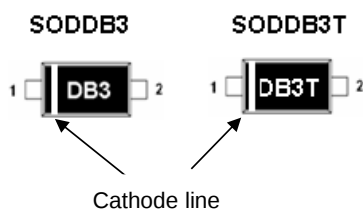
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Min	Min
G	2.25	0.089
X	0.90	0.035
X1	4.05	0.159
Y	0.95	0.037

MARKING



Note: Apply positive voltage in cathode line and apply negative in another electrode, it will show better I/V curve. It help user differentiate the direction of purpose.

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