

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



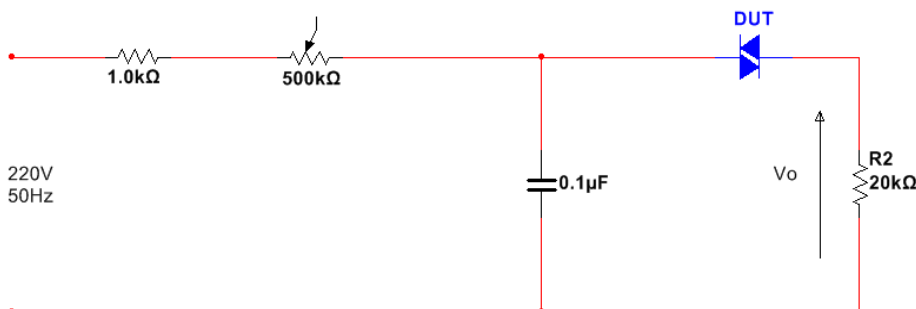
**APPLICATION**

- 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 <sub>A</sub> =25°C unless otherwise noted)				
PARAMETER	SYMBOL	VALUE	UNIT	
Repetitive Peak on-state Current	$I_{TRM}$	2	A	
Power Dissipation	$P_D$	400	mW	
Junction Temperature	$T_J$	- 40 to +125	°C	
Storage Temperature Range	$T_{STG}$	- 40 to +125	°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	[ $ +V_{BO1} $     $-V_{BO2} $ ]			$\pm 3$	C=22nF	V
				$\pm 2$		
Dynamic Breakdown Voltage	$ \Delta V_{\pm} $	5			$\Delta I=[I_{BO}$ 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	$V_B = 0.5V_{BO}$	$\mu A$
Rest Time	$t_r$		1.5			$\mu s$
Breakdown current	$I_{BO}$			100	C=22nF	$\mu A$
		-		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

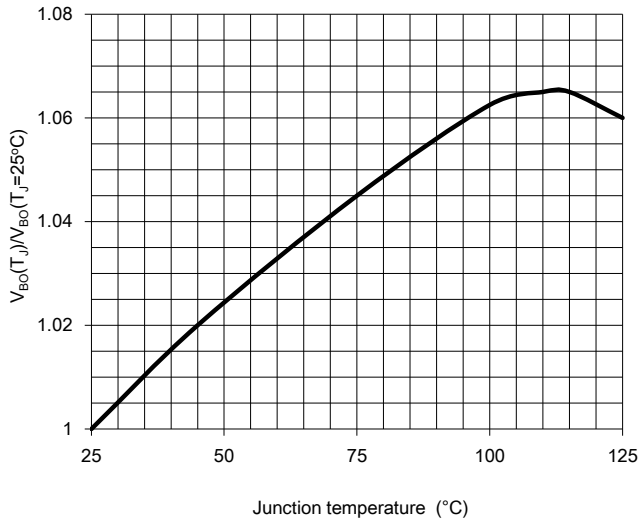


Fig. 2 Power derating curve

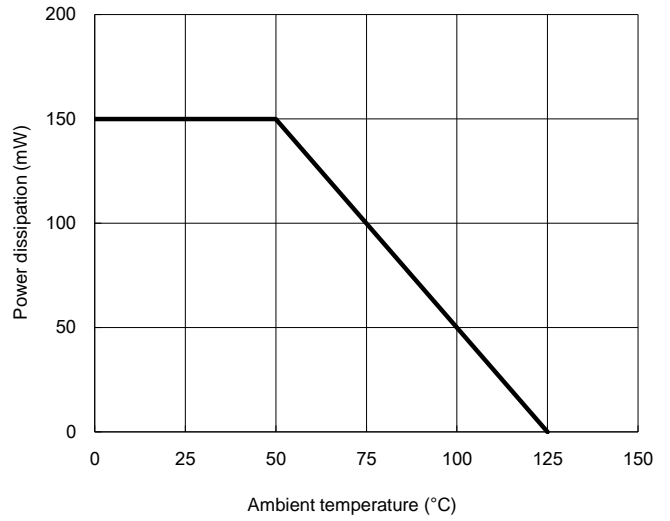
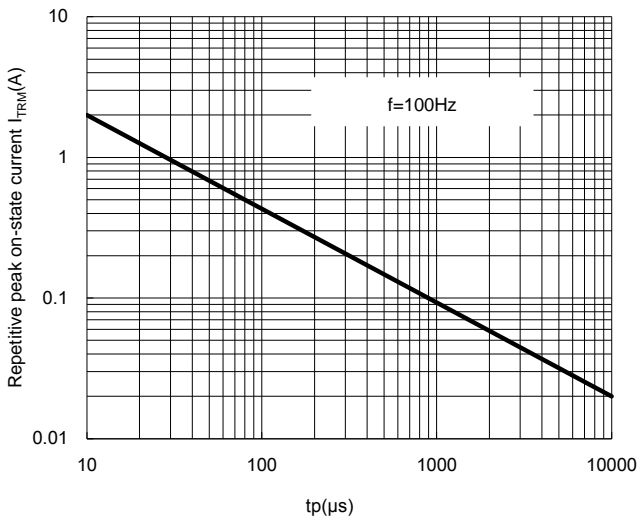


Fig. 3 Peak pulse current vs. pulse duration



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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

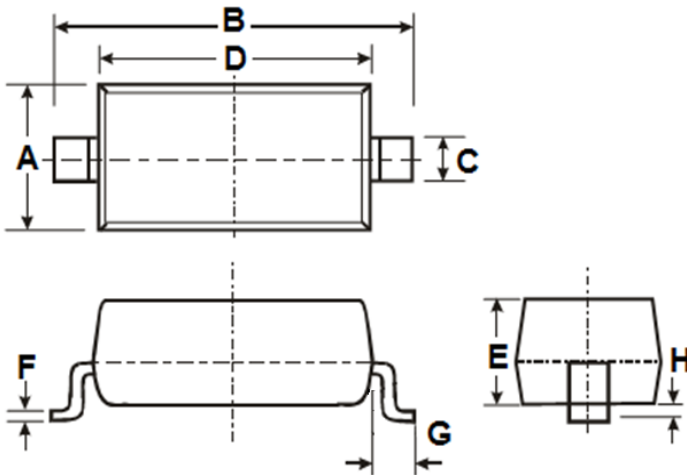
Note 1: "x" is Device Code from "3" - "3T".

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

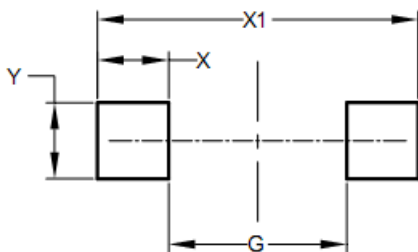
**PACKAGE OUTLINE DIMENSIONS**

SOD-123



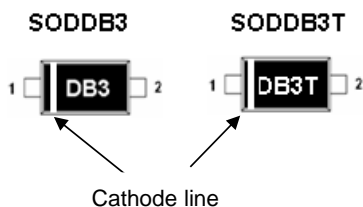
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

**SUGGEST PAD LAYOUT**



DIM.	Unit (mm)		Unit (inch)	
	Min	Min	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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