

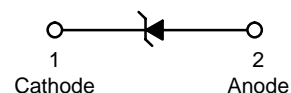
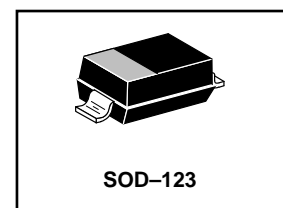
Surface Mount Schottky Power Rectifier

Plastic SOD-123 Package

Features and benefits

- Very small conduction losses
- Negligible switching losses
- Low forward voltage drop
- Surface mount device
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

LBAT46T1G
S-LBAT46T1G



Description

Diodes in the LBAT46T1G is high voltage, small signal Schottky diodes suited for protection and routing operations.

Mechanical Characteristics

- Reel Options: LBAT46T1G = 3,000 per 7 "reel/8 mm tape
- Device Marking: Z46
- Polarity Designator: Cathode Band
- Weight: 11.7 mg (approximately)
- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds

ORDERING INFORMATION

Device	Package	Shipping
LBAT46T1G S-LBAT46T1G	SOD-123	3000/Tape & Reel

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit	
V_{RRM}	Repetitive peak reverse voltage	100	V	
I_F	Continuous forward current	150	mA	
I_{FSM}	Surge non repetitive forward current	$t_p = 10$ ms Sinusoidal	1	A
T_{stg}	Storage temperature range	-55 to +150	° C	
T_j	Maximum operating junction temperature ⁽¹⁾	150	° C	
T_L	Maximum soldering temperature ⁽¹⁾	260	° C	

1. Pulse test: $t_p = 380 \mu s$, $\delta < 2 \%$

LBAT46T1G,S-LBAT46T1G

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient ⁽¹⁾	500	°C/W

1. On epoxy printed circuit board with recommended pad layout

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Min.	Typ	Max.	Unit	
$I_R^{(1)}$	Reverse leakage current	$T_j = 25^\circ C$	$V_R = 1.5 V$			0.5	μA
			$V_R = 10 V$			0.8	
			$V_R = 50 V$			2	
			$V_R = 75 V$			5	
		$T_j = 60^\circ C$	$V_R = 1.5 V$			5	
			$V_R = 10 V$			7.5	
			$V_R = 50 V$			15	
			$V_R = 75 V$			20	
$V_F^{(2)}$	Forward voltage drop	$T_j = 25^\circ C$	$I_F = 0.1 mA$			0.25	V
			$I_F = 10 mA$			0.45	
			$I_F = 250 mA$			1	

1. Pulse test: $t_p = 5 ms$, $\delta < 2 \%$

2. Pulse test: $t_p = 380 \mu s$, $\delta < 2 \%$

Symbol	Parameter	Test conditions	Min.	Typ	Max.	Unit
C	Diode capacitance	$V_R = 0 V, F = 1 MHz$		10		μF
		$V_R = 1 V, F = 1 MHz$		6		

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Figure 1. Average forward power dissipation versus average forward current

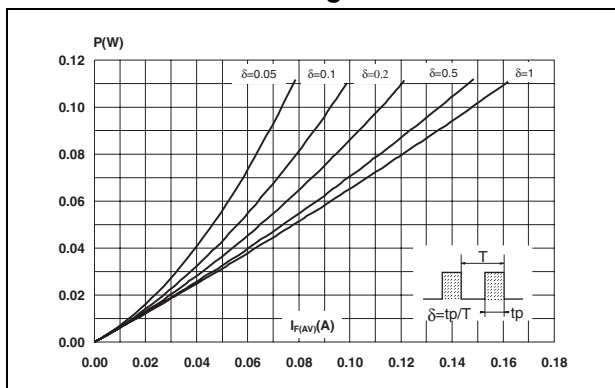


Figure 2. Average forward current versus ambient temperature ($\delta = 1$)

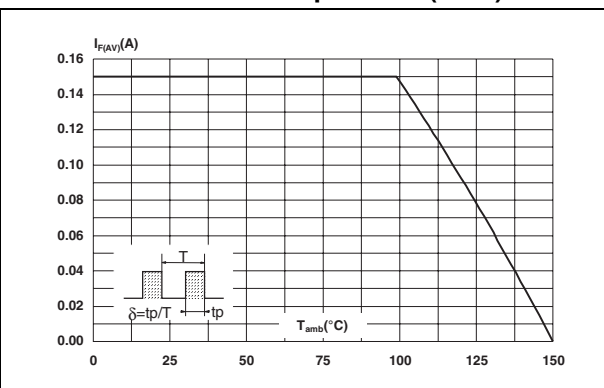


Figure 3. Reverse leakage current versus reverse applied voltage (typical values)

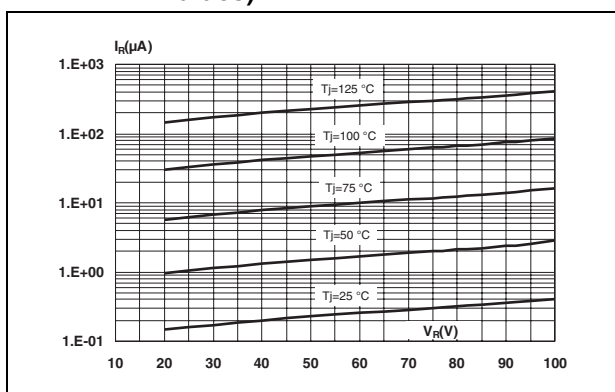


Figure 4. Reverse leakage current versus junction temperature

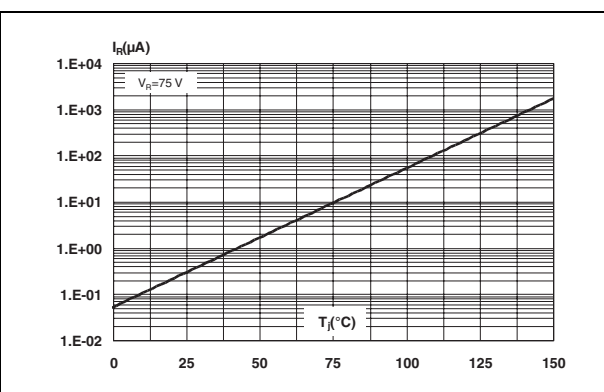


Figure 5. Junction capacitance versus reverse applied voltage (typical values)

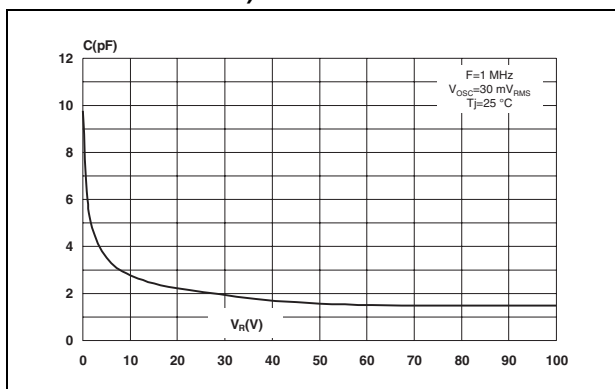
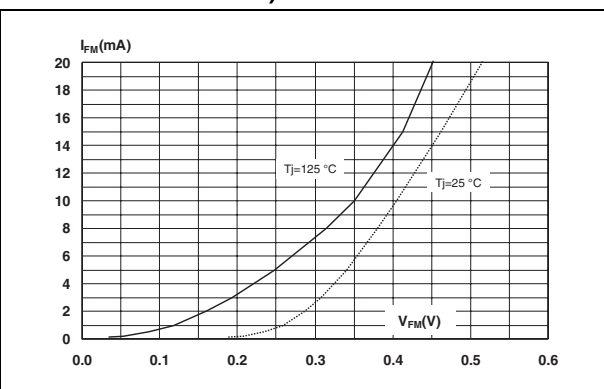
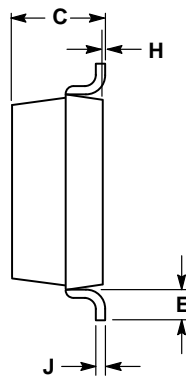
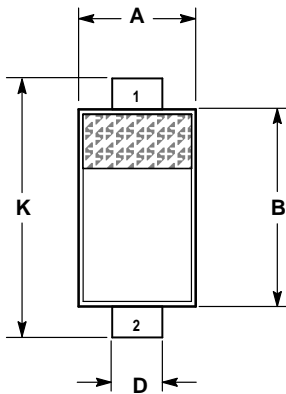


Figure 6. Forward voltage drop versus forward current (typical values, low-level)



PACKAGE DIMENSIONS

SOD-123

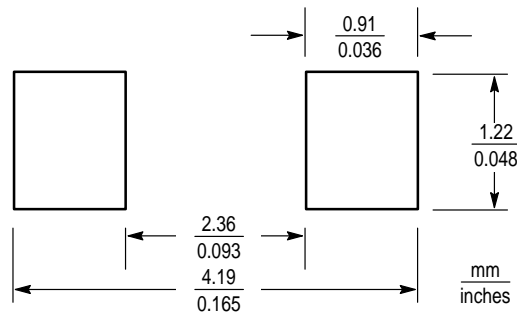


- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.100	0.112	2.55	2.85
C	0.037	0.053	0.95	1.35
D	0.020	0.028	0.50	0.70
E	0.004	—	0.25	—
H	0.000	0.004	0.00	0.10
J	—	0.006	—	0.15
K	0.140	0.152	3.55	3.85

STYLE 1:
 PIN 1. CATHODE
 2. ANODE

RECOMMENDED FOOTPRINT FOR SOD-123



SOD-123