

# **Maximum Ratings** (@ $T_A = +25^{\circ}C$ , unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V
Forward Continuous Current (Note 5)	I <sub>FM</sub>	200	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	600	mA

## **Thermal Characteristics**

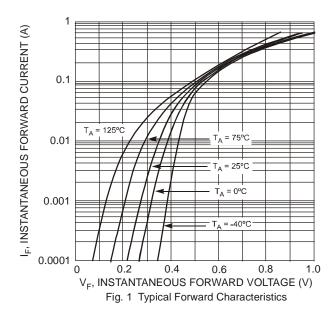
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_{D}$	150	mW
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	490	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

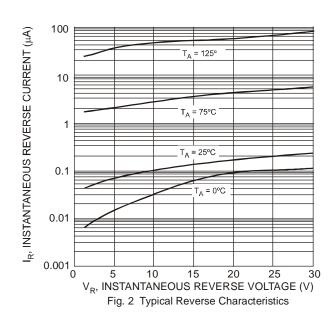
# Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	30	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V <sub>F</sub>	_		240 320 400 500 1,000	mV	I <sub>F</sub> = 0.1mA I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 30mA I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 6)	$I_R$	_	_	2.0	μΑ	V <sub>R</sub> = 25V
Total Capacitance	C <sub>T</sub>			10	pF	$V_R = 10V, f = 1.0MHz$
Reverse Recovery Time	t <sub>RR</sub>	_	_	5.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{RR} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

Notes:

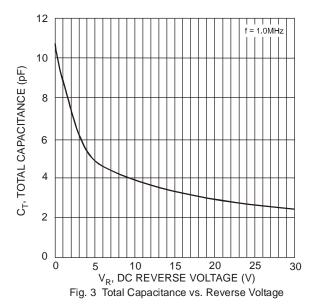
- 5. Device mounted on FR-4 substrate PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html.
- 6. Short duration pulse test used to minimize self-heating effect.

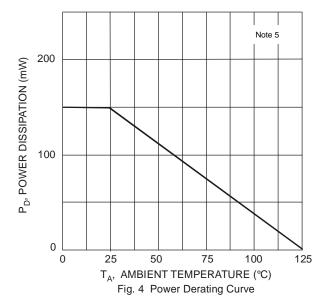










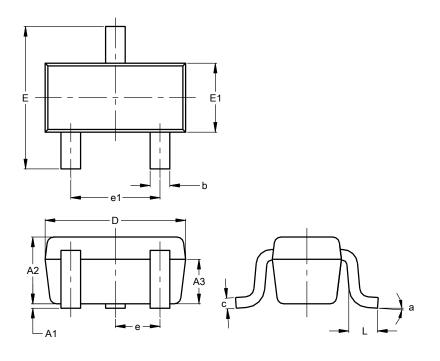




## **Package Outline Dimensions**

Please see http://www.diodes.com/package-outlines.html for the latest version.

### **SOT523**

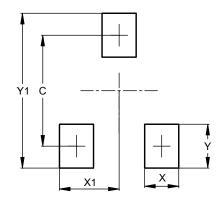


SOT523				
Dim	Min	Max	Тур	
A1	0.00	0.10	0.05	
A2	0.60	0.80	0.75	
A3	0.45	0.65	0.50	
b	0.15	0.30	0.22	
С	0.10	0.20	0.12	
D	1.50	1.70	1.60	
Е	1.45	1.75	1.60	
E1	0.75	0.85	0.80	
е	0.50 BSC			
e1	0.90	1.10	1.00	
L	0.20	0.40	0.33	
а	0°		8°	
All Dimensions in mm				

## **Suggested Pad Layout**

Please see http://www.diodes.com/package-outlines.html for the latest version.

### **SOT523**



Dimensions	Value (in mm)
С	1.29
Х	0.40
X1	0.70
Υ	0.51
Y1	1.80

Note: The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application. These dimensions may be modified based on user equipment capability or fabrication criteria. A more robust pattern may be desired for wave soldering and is calculated by adding 0.2 mm to the 'Z' dimension. For further information, please reference document IPC-7351A, Naming Convention for Standard SMT Land Patterns, and for International grid details, please see document IEC, Publication 97.

**Note:** For high voltage applications, the appropriate industry sector guidelines should be considered with regards to creepage and clearance distances between device Terminals and PCB tracking.



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