FAIRCHILD SEMICONDUCTOR™

MBR0520L

SCHOTTKY POWER RECTIFIER

DISCRETE POWER AND SIGNAL TECHNOLOGIES

General Description:

Schottky Barrier Diodes make use of the rectification effect of a metal to silicon barrier. They are ideally suited for high frequency rectification in switching regulators & converters. This device offers a low forward voltage performance in a power surface mount package in applications where size and weight are critical.

Features:

- Compact surface mount with same footprint as mini-melf
- 400 milliwatt Power Dissipation package.
- 1.0 Ampere, forward voltage less than 600 mv

Ordering:

- 7 inch reel (178 mm); 8 mm Tape; 3,000 units per reel.

Absolute Maximum Ratings (note 1) TA = 25°C unless otherwise noted

Parameter	Value	Units
Storage Temperature	-65 to +150	°C
Maximum Junction Temperature	-65 to +125	°C
Repetitive Peak Reverse Voltage (V_{RRM})	20	V
Working Peak Reverse Voltage (V_{RWM})	20	V
DC Blocking Voltage (V_R)	20	V
Average Rectified Forward Current (Rated V_R)	500	mA
Surge Non Repetitive Forward Current (Surge applied at rated load conditions half wave, single phase, 60 Hz)	5.5	A
Thermal Resistance ($R_{\Theta JA}$) Junction to Ambient (note 2)	340	°C/W
Thermal Resistance ($R_{\Theta JL}$) Junction to Lead	150	°C/W

Note 1: These ratings are limiting values above which the serviceability of any semiconductor device may be impaired

Note 2: FR-4 or FR-5 = 3.5 x 1.5 inches using minimum recommended Land Pads.

Actual Size

Electrical Characteristics TA = 25°C unless otherwise noted

SYM	CHARACTERISTICS	MIN	MAX	UNITS	TEST CONDITIONS
I_R	Reverse Leakage		75	uA	V_R = 10 V T_A = 25°C
			5.0	mA	V_R = 10 V T_A = 100°C
			250	uA	V_R = 20 V T_A = 25°C
			8.0	mA	V_R = 20 V T_A = 100°C
V_F	Forward Voltage		300	mV	I_F = 100 mA T_A = 25°C
	V_F Pulse width = 300 us, Duty Cycle ≤ 2%		220	mV	I_F = 100 mA T_A = 100°C
			385	mV	I_F = 500 mA T_A = 25°C
			330	mV	I_F = 500 mA T_A = 100°C

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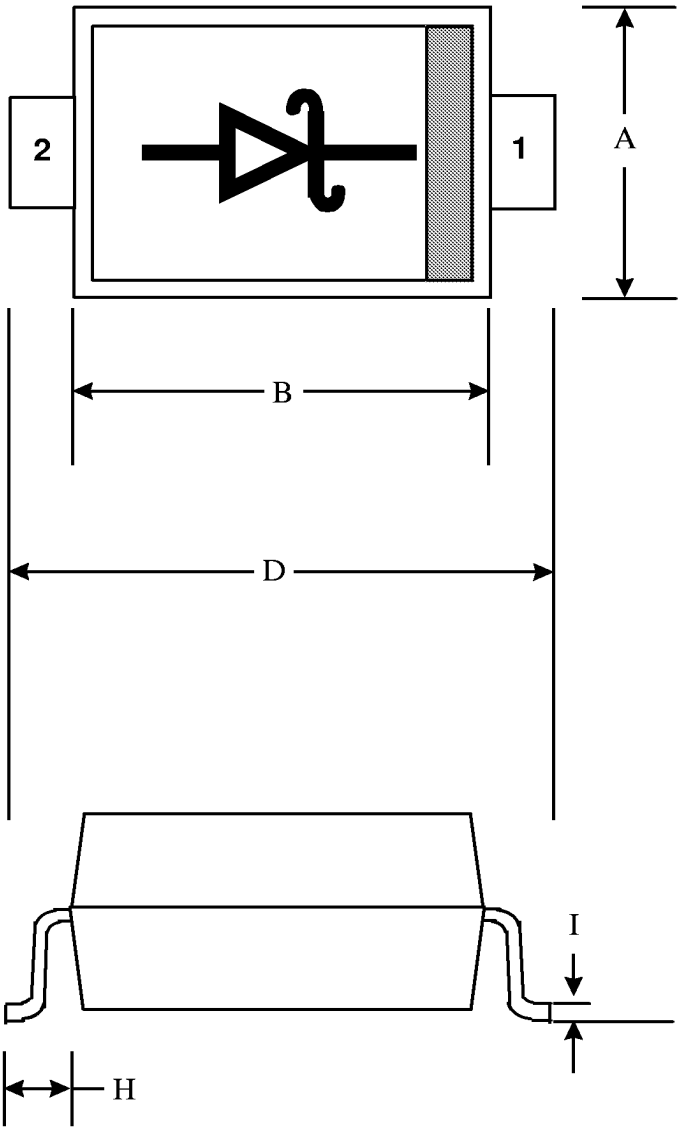
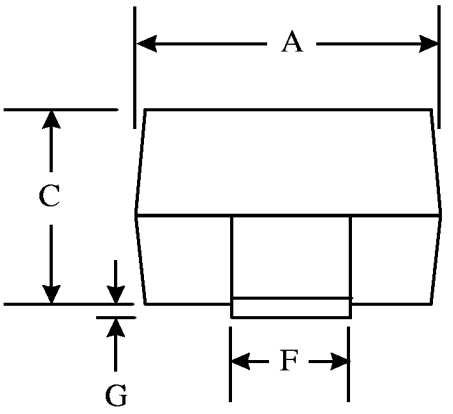
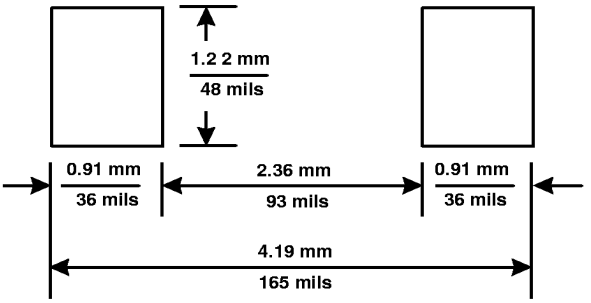
SOD-123 PACKAGE

PACKAGE CODE = (D6)
Fairchild Semiconductor's Criteria



Actual Size DIM	MIN (mils)	MAX (mils)	MIN (mm)	MAX (mm)
A	55	71	1.400	1.800
B	100	112	2.550	2.850
C	35	46	0.880	1.180
D	142	154	3.600	3.900
E	----	----	-------	-------
F	22	28	0.555	0.705
G	0.5	4	0.0135	0.1015
H	Typ 21		Typ 0.525	
I	4	6	0.102	0.152





SOD-123 LAND PADS