



THE DATASHEET OF US1B-TP



Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant(Note 2) ("P" Suffix Designates Compliant. See Ordering Information)
- Glass Passivated Chip
- Ultra Fast Switching For High Efficiency
- For Surface Mounted Applications
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 30°C/W Junction to Lead

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
US1A	US1A	50V	35V	50V
US1B	US1B	100V	70V	100V
US1C	US1C	150V	105V	150V
US1D	US1D	200V	140V	200V
US1G	US1G	400V	280V	400V
US1J	US1J	600V	420V	600V
US1K	US1K	800V	560V	800V
US1M	US1M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

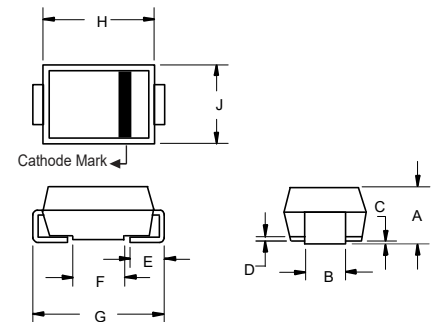
Parameter	Symbol	Value	Conditions
Average Forward Current	$I_{F(AV)}$	1.0A	$T_L=110^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, Half Sine
Current Squared Time	I^2t	3.735A ² /s	
Maximum Instantaneous Forward Voltage	V_F	1.0V 1.4V 1.7V	$I_{FM}=1.0\text{A};$ $T_A=25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0μA 50μA	$T_A=25^\circ\text{C};$ $T_A=100^\circ\text{C}$
Maximum Reverse Recovery Time	t_{rr}	50ns 75ns	$I_F=0.5\text{A}; I_R=1.0\text{A};$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance	C_J	20pF 10pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

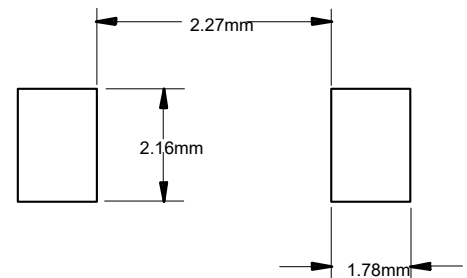
1 Amp Ultra Fast Rectifier 50 to 1000 Volts

SMA (DO-214AC)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	0.075	0.090	1.90	2.29	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.187	4.00	4.75	
J	0.090	0.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

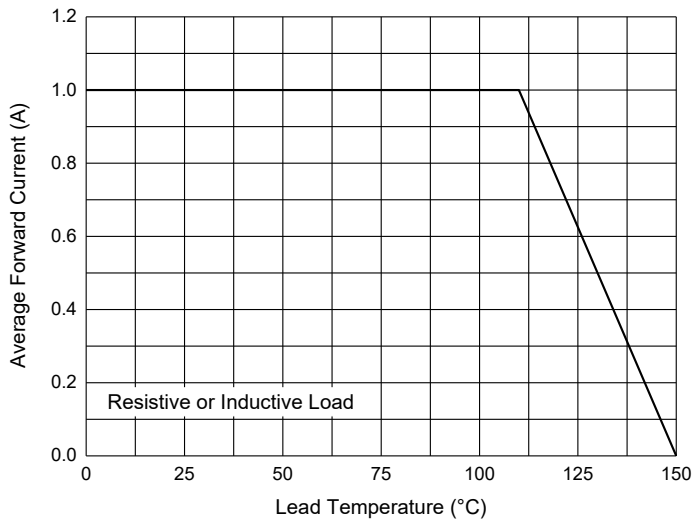


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

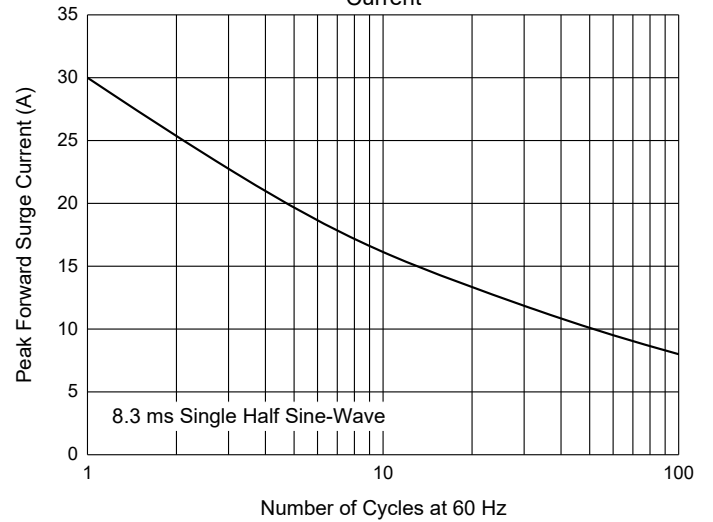


Fig. 3 - Typical Instantaneous Forward Characteristics

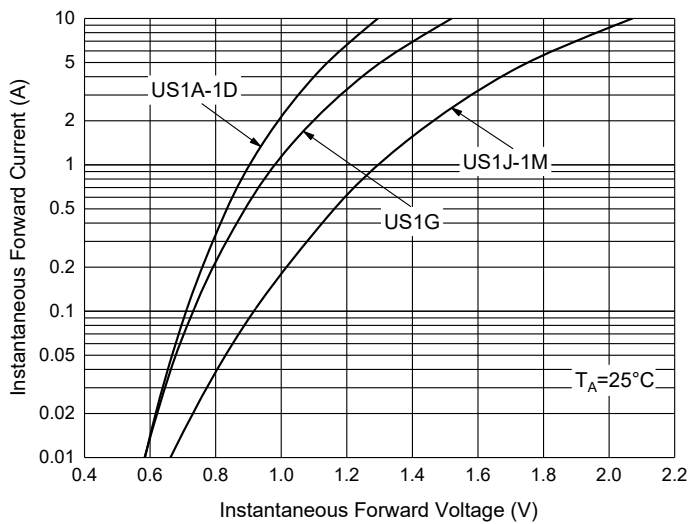
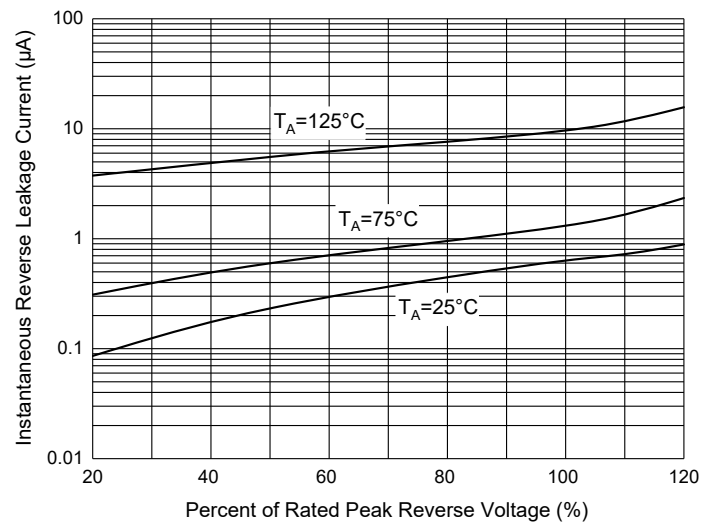


Fig. 4 - Typical Reverse Leakage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel

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