

Features

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

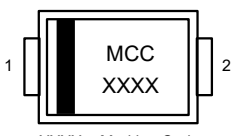

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value								Unit
		US 1A	US 1B	US 1C	US 1D	US 1G	US 1J	US 1K	US 1M	
Peak Repetitive Reverse Voltage	V_{RRM}									V
Working Peak Reverse Voltage	V_{RWM}	50	100	150	200	400	600	800	1000	
DC Blocking Voltage	V_R									
RMS Reverse Voltage	V_{RMS}	35	70	105	140	280	420	560	700	V
Average Rectified Forward Current @ $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1								A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	30								A
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	I^2t	3.735								A ² s

Marking Code

Part Number	Marking Code
US1A	US1A
US1B	US1B
US1C	US1C
US1D	US1D
US1G	US1G
US1J	US1J
US1K	US1K
US1M	US1M

Internal Structure

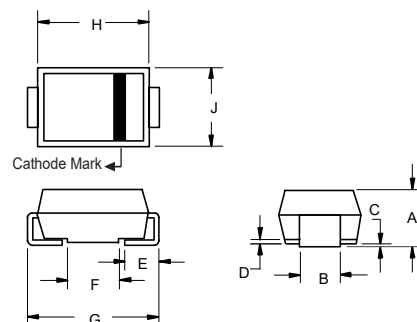
Simplified Outline	Graphic Symbol
 <p>XXXX = Marking Code</p>	

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

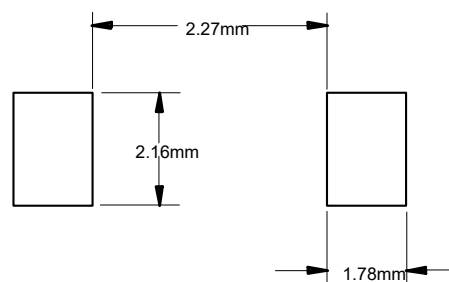
1.0 Amp Ultra Fast Rectifier 50 to 1000 Volts

SMA (DO-214AC)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
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



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		25		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		80		°C/W

Note:

1. Mounted on P.C.B. with 8mm*8mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage US1A - US1D US1G US1J - US1M	V_F	$I_F=1A; T_J=25^{\circ}C$			1.0 1.3 1.7	V
Reverse Current	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	μA
Reverse Recovery Time US1A - US1G US1J - US1M	t_{rr}	$I_F=0.5A; I_R=1.0A;$ $I_{rr}=0.25A; T_J=25^{\circ}C$			50 75	nS
Junction Capacitance US1A - US1D US1G US1J - US1M	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		18 12 7.5		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

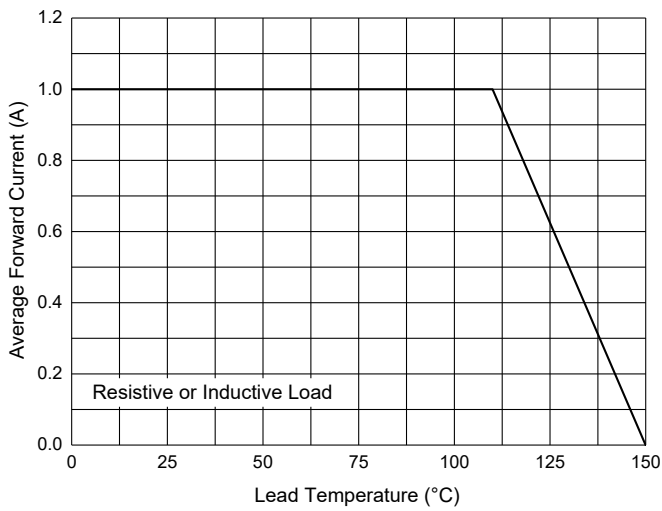


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

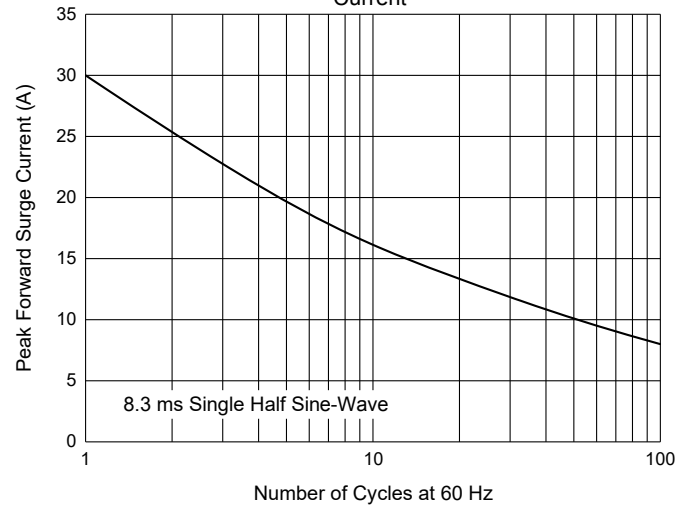


Fig. 3 - Typical Forward Characteristics

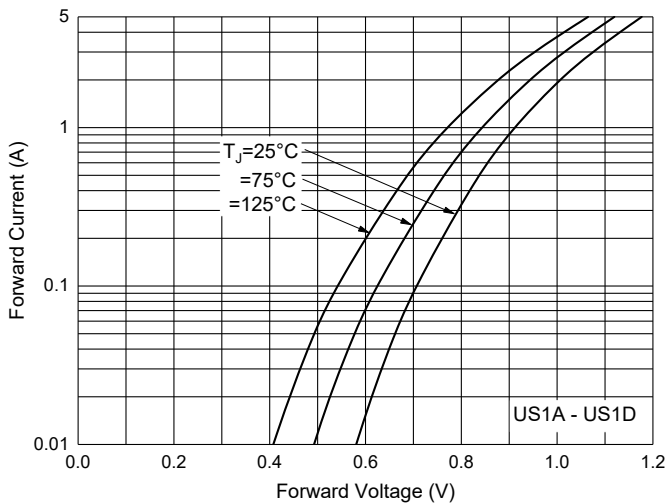


Fig. 4 - Typical Forward Characteristics

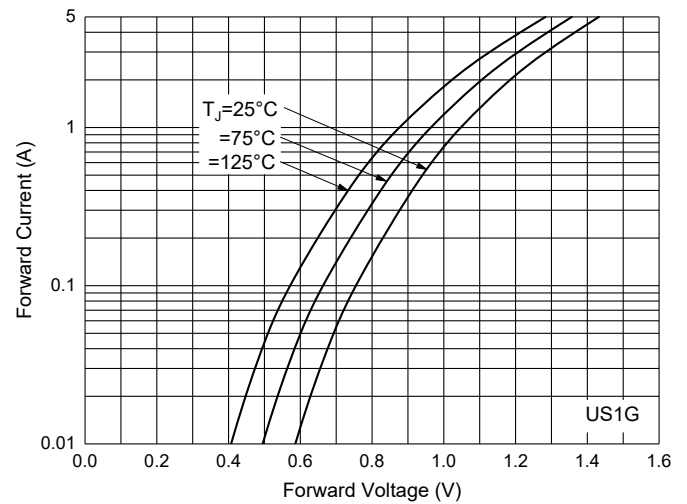


Fig. 5 - Typical Forward Characteristics

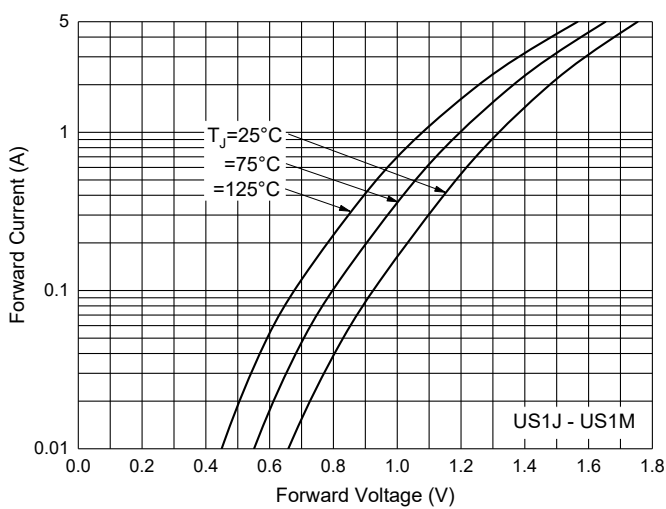
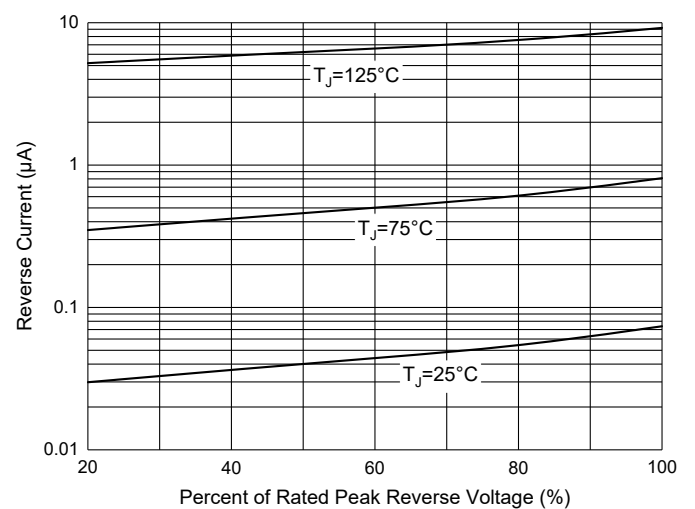
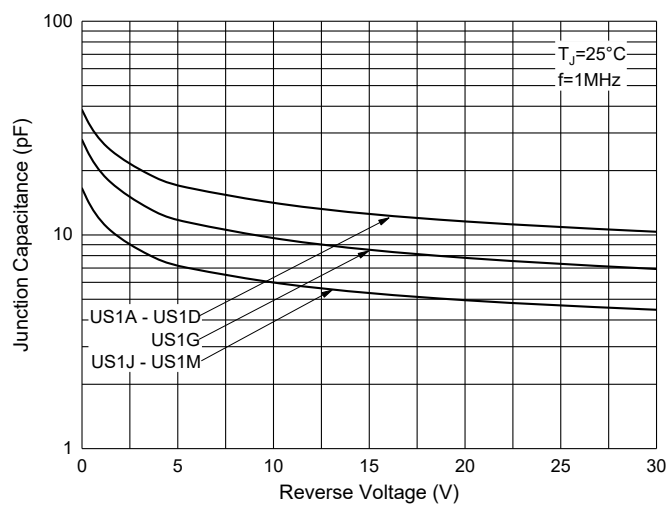


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics



Ordering Information

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp** . and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.