Micro Commercial Components

Micro Commercial Components
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US1A THRU US1M

1 Amp Ultra Fast Rectifier 50 to 1000 Volts

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Glass Passivated Chip
- Ultra Fast Switching For High Efficiency
- For Surface Mounted Applications
- Low Forward Voltage Drop And High Current Capability
- Low Reverse Leakage Current
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

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

MCC Catalog 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

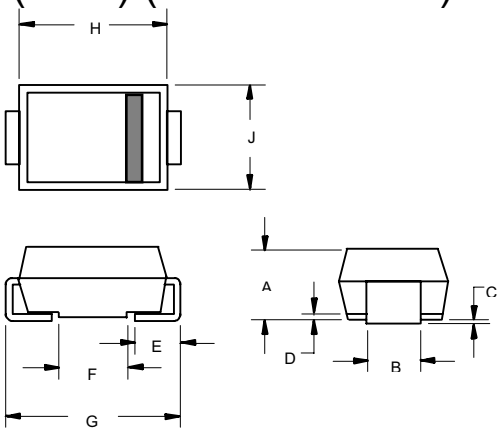
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	T_L = 110°C
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage US1A-1D US1G US1J-1M	V_F	 1.0V 1.4V 1.7V	 I_{FM} = 1.0A; T_J = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	10μA 100μA	T_A = 25°C T_A = 100°C
Maximum Reverse Recovery Time US1A-US1G US1J~US1M	T_{rr}	50ns 75ns	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
Typical Junction Capacitance US1A-1G US1J-1M	C_J	 20pF 10pF	 Measured at 1.0MHz, V_R=4.0V

*Pulse test: Pulse width 300 sec, Duty cycle 1%

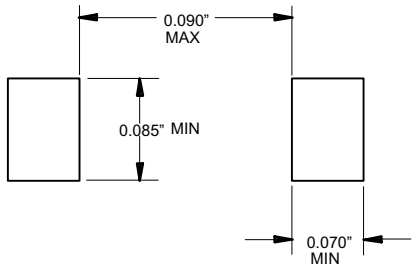
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

DO-214AC
(SMA) (LEAD FRAME)



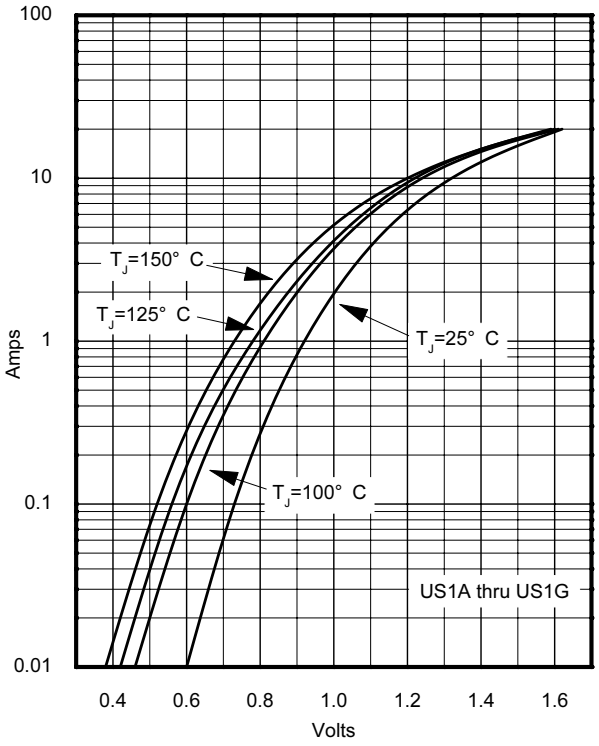
Dimensions					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



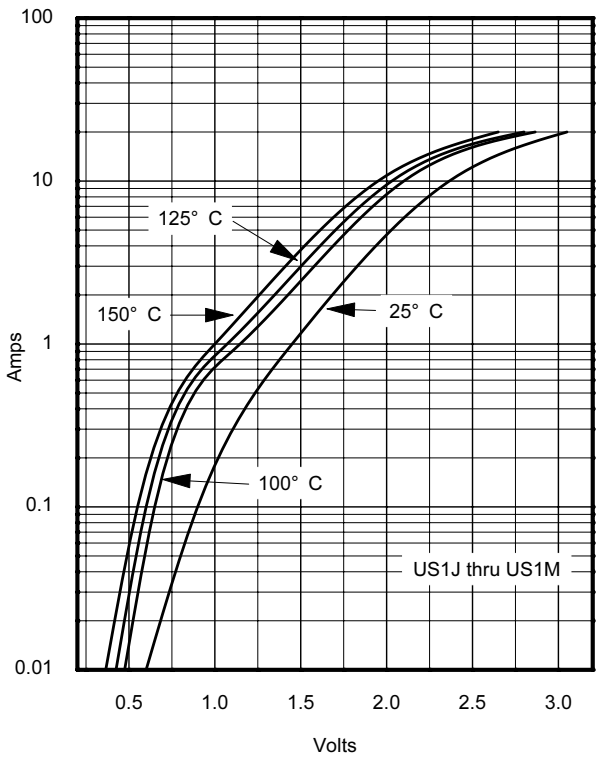
US1A thru US1M

Figure 1
Typical Forward Characteristics



Instantaneous Forward Current - Amperesversus
Instantaneous Forward Voltage - Volts

Figure 2
Typical Forward Characteristics



Instantaneous Forward Current - Amperesversus
Instantaneous Forward Voltage - Volts

Fig. 3
Forward Current Derating Curve

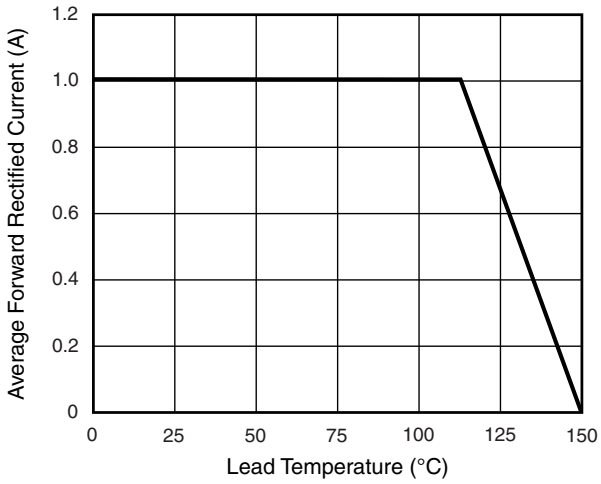
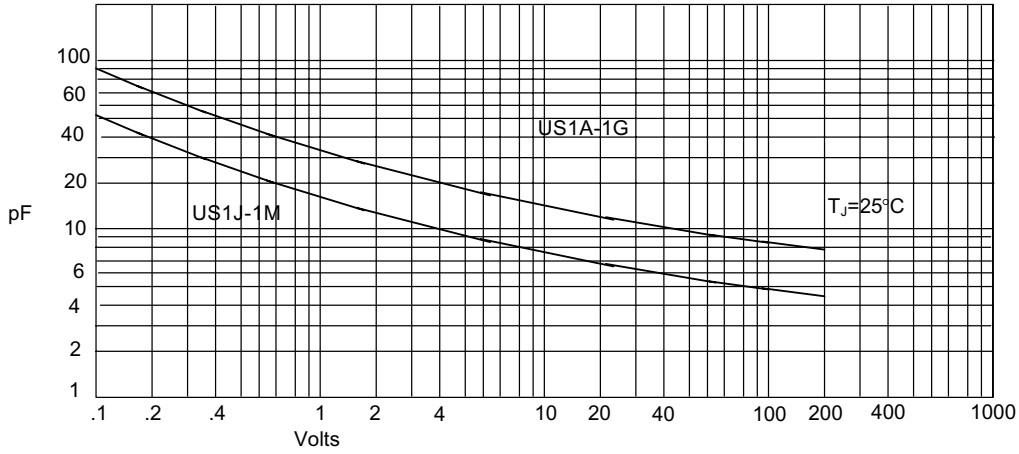
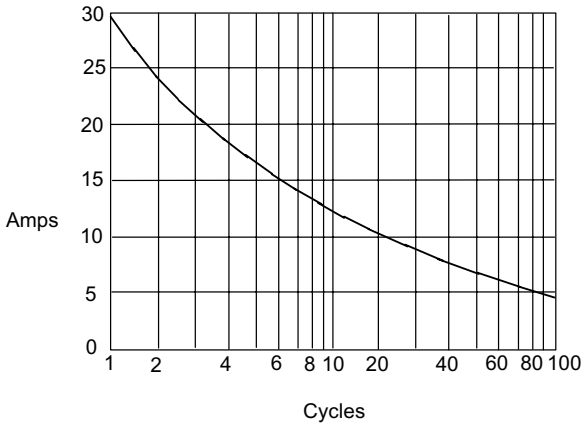


Figure 4
Junction Capacitance



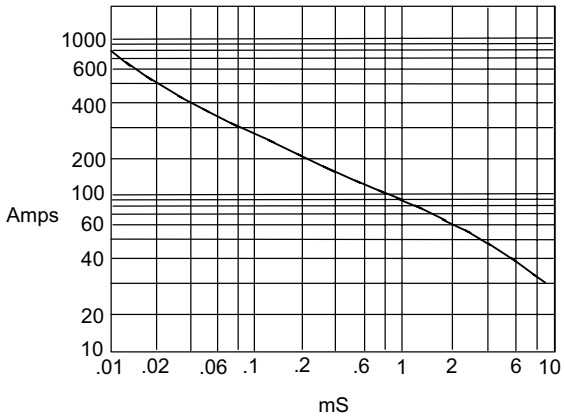
Junction Capacitance - pF*versus*
Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



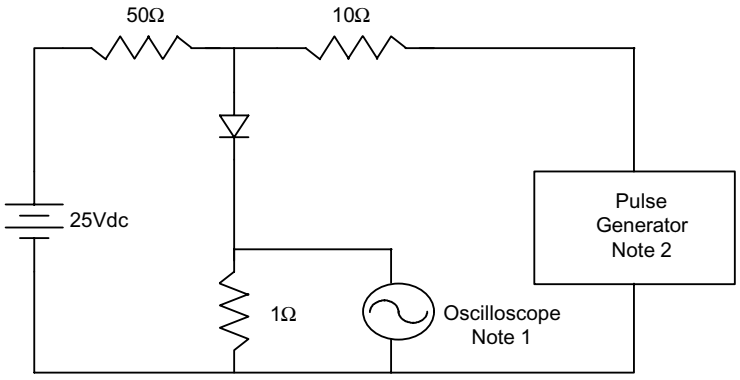
Peak Forward Surge Current - Amperes*versus*
Number Of Cycles At 60Hz - Cycles

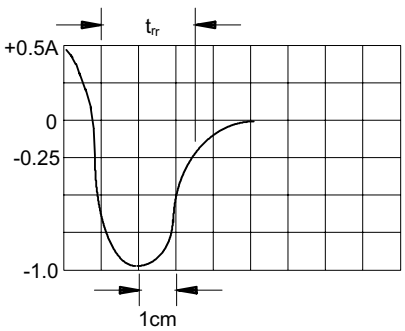
Figure 6
Peak Forward Surge Current



Peak Forward Surge Current - Amperes*versus*
Pulse Duration - Milliseconds (mS)

Figure 7
Reverse Recovery Time Characteristic And Test Circuit Diagram





Set Time Base for 20/100ns/cm

Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.
Source impedance = 50 ohms
3. Resistors are non-inductive

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Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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