

Micro Commercial Components

Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311

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US1A **THRU** US1M

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 +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance; 30 °C/W Junction To Lead

MCC	Device	Maximum	Maximum	Maximum
Catalog	Marking	Recurrent	RMS	DC
Number		Peak Reverse	Voltage	Blocking
		Voltage		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

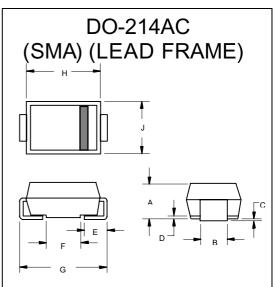
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	T _L = 110°C
Peak Forward Surge	I _{FSM}	30A	8.3ms, half sine
Current			
Maximum			
Instantaneous			
Forward Voltage			
US1A-1D	V_{F}	1.0V	$I_{FM} = 1.0A;$
US1G		1.4V	T _J = 25°C
US1J-1M		1.7V	· ·
Maximum DC			
Reverse Current At	I_R	10uA	T _A = 25°C
Rated DC Blocking	IX.	100uA	T _A = 100°C
Voltage		1000,1	1A - 100 C
Maximum Reverse			
Recovery Time		50	
US1A-US1G	T_{rr}	50ns	I_F =0.5A, I_R =1.0A,
US1J~US1M		75ns	I _{rr} =0.25A
Typical Junction			
Capacitance			
US1A-1G	CJ	20pF	Measured at
US1J-1M		10pF	1.0MHz, V _R =4.0V

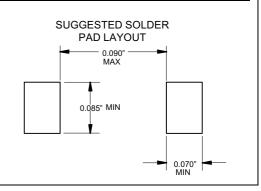
*Pulse test: Pulse width 300 sec, Duty cycle 1%

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

1 Amp Ultra Fast Rectifier 50 to 1000 Volts



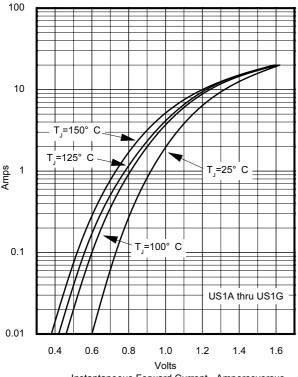
Dimensions						
	INCHES		ММ			
DIM	MIN	MAX	MIN	MAX	NOTE	
Α	.079	.096	2.00	2.44		
В	.050	.064	1.27	1.63		
С	.002	.008	.05	.20		
D		.02		.51		
Е	.030	.060	.76	1.52		
F	.065	.091	1.65	2.32		
G	.189	.220	4.80	5.59		
Н	.157	.181	4.00	4.60		
J	.090	.115	2.25	2.92		





US1A thru US1M

Figure 1 Typical Forward Characteristics



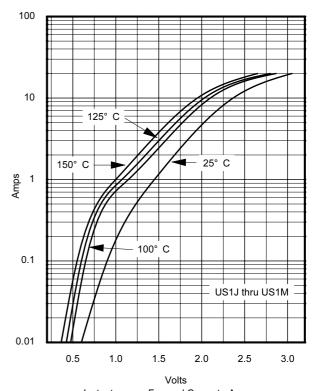
Instantaneous Forward Current - Amperesversus Instantaneous Forward Voltage - Volts

Forward Derating Curve 2.4 2.2 2.0 1.8 1.6 1.4 1.2 Amps 1.0 .8 .6 Single Phase, Half Wave .2 60Hz Resistive or Inductive 0 30 120 180

Figure 3

 $^{\circ}\text{C}$ Average Forward Rectified Current - Amperes/ersus Lead Temperature $\,\text{-}^{\circ}\text{C}$

Figure 2
Typical Forward Characteristics

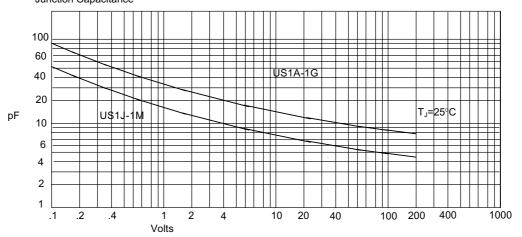


Instantaneous Forward Current - Amperesversus Instantaneous Forward Voltage - Volts

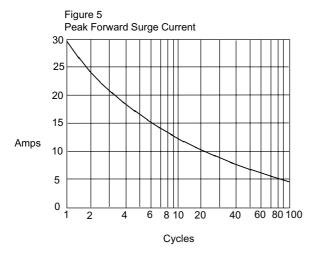
US1A thru US1M

Figure 4
Junction Capacitance

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Junction Capacitance - pF*versus* Reverse Voltage - Volts



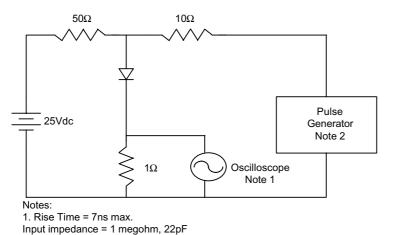
Peak Forward Surge Current - Amperesversus Number Of Cycles At 60Hz - Cycles

Figure 6 Peak Forward Surge Current 1000 600 400 200 100 Amps 60 40 20 .01 .02 .6 6 10 .06 .1 mS

Peak Forward Surge Current - Amperesversus Pulse Duration - Milliseconds (mS)

Figure 7
Reverse Recovery Time Characteristic And Test Circuit Diagram

2. Rise Time = 10ns max. Source impedance = 50 ohms 3. Resistors are non-inductive



+0.5A

-1.0

-1.0

Set Time Base for 20/100ns/cm



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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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