

**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 <sup>2</sup> 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**

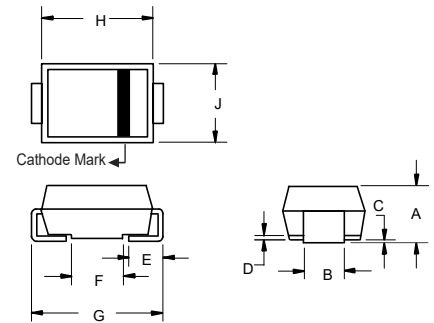
Simplified Outline	Graphic Symbol
<p>XXXX = Marking Code</p>	

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.

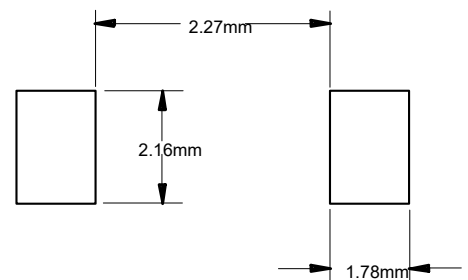
**1.0 Amp  
Ultra Fast Rectifier  
50 to 1000 Volts**

**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	$\mu A$
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

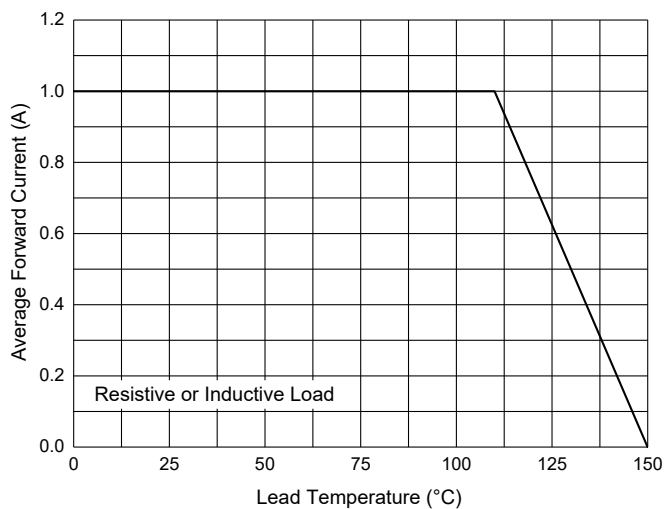


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

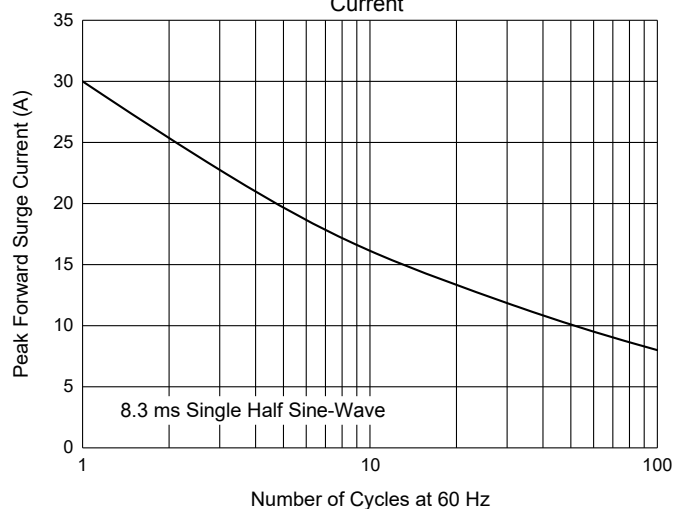


Fig. 3 - Typical Forward Characteristics

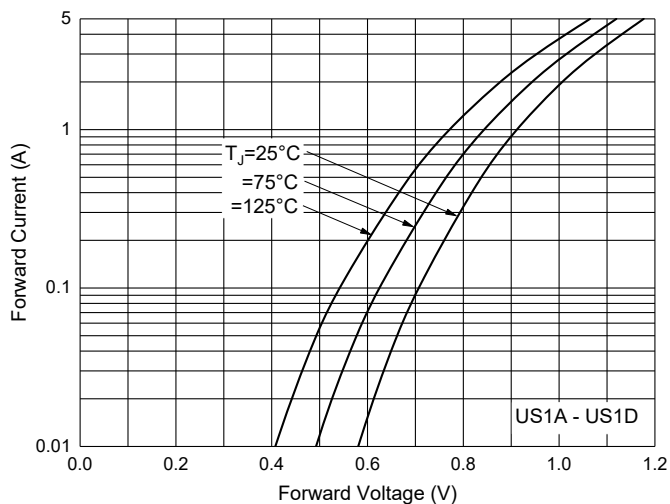


Fig. 4 - Typical Forward Characteristics

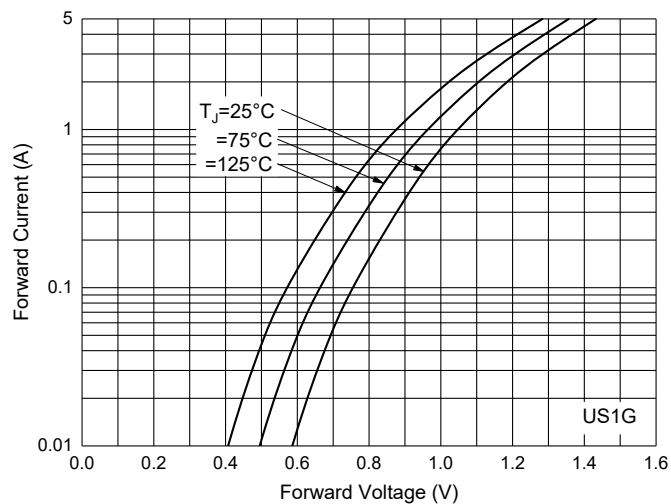


Fig. 5 - Typical Forward Characteristics

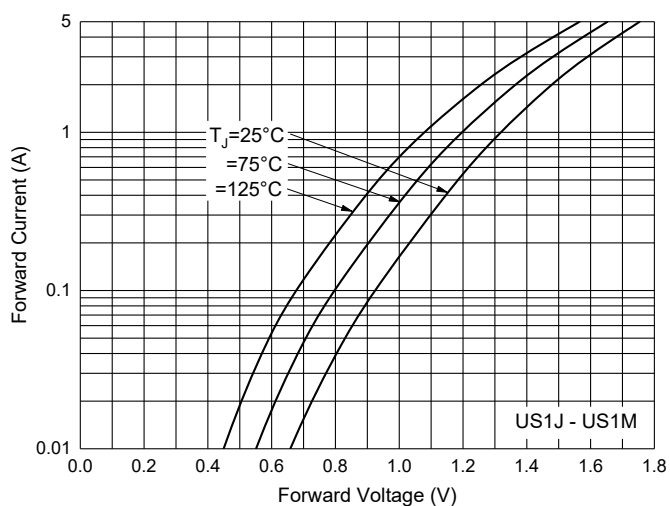
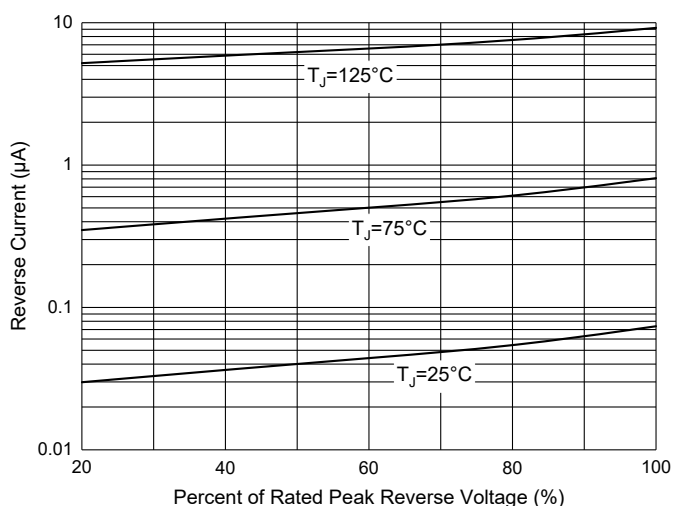
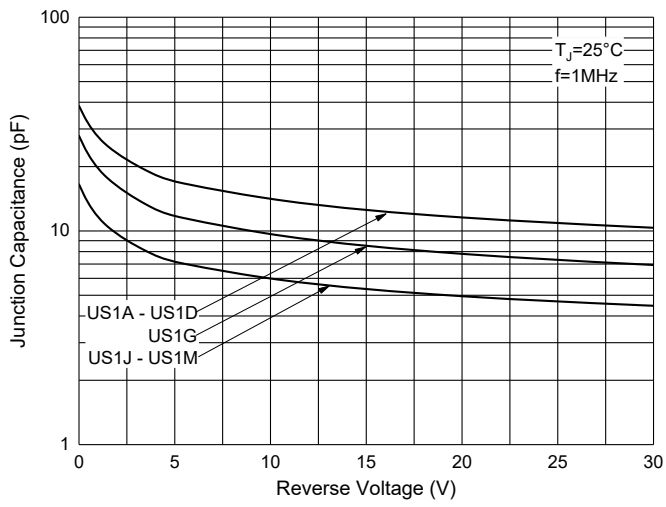


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics



## Ordering Information

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

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