US2D – US2M(LS)

SURFACE MOUNT ULTRA FAST RECTIFIERS

REVERSE VOLTAGE – 200 to 1000 Volts
FORWARD CURRENT – 2.0 Amperes

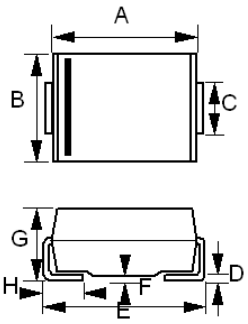
FEATURES

- 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
- Qualified according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: Molded plastic
- Package Material: Molding compound, UL Flammability classification 94V-0, "Halogen-free".
- Polarity: Indicated by cathode band
- Weight: 0.003 ounces, 0.093 grams (Approximate)

SMB



SMB		
DIM.	MIN.	MAX.
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	US2D	US2G	US2J	US2K	US2M	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @T_L=95°C	I_{AV}	2.0					A
Peak Forward Surge 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50					A
Maximum Forward Voltage at 2.0A DC	V_F	1.0	1.3	1.7			V
Maximum DC Reverse Current @T_J=25°C at Rated DC Blocking Voltage @T_J=100°C	I_R	5 100					uA
Maximum Reverse Recovery Time (Note 4)	t_{rr}	50		75			ns
Typical Junction Capacitance (Note 5)	C_T	30					pF
Typical Thermal Resistance (Note 6)	R_{thJL}	22					°C/W
Operating Junction Temperature Range	T_J	-55 to +150					°C
Storage Temperature Range	T_{STG}	-55 to +150					°C

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Reverse Recovery Test Condition: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A.
5. Measured at 1MHz and applied reverse voltage of 4.0VDC.
6. Thermal Resistance junction to Lead.

RATING AND CHARACTERISTIC CURVES
US2D – US2M

FIG.1- FORWARD CURRENT DERATING CURVE

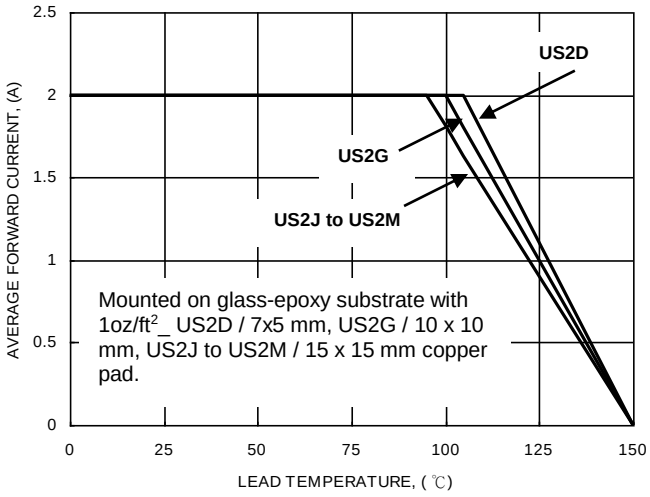


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

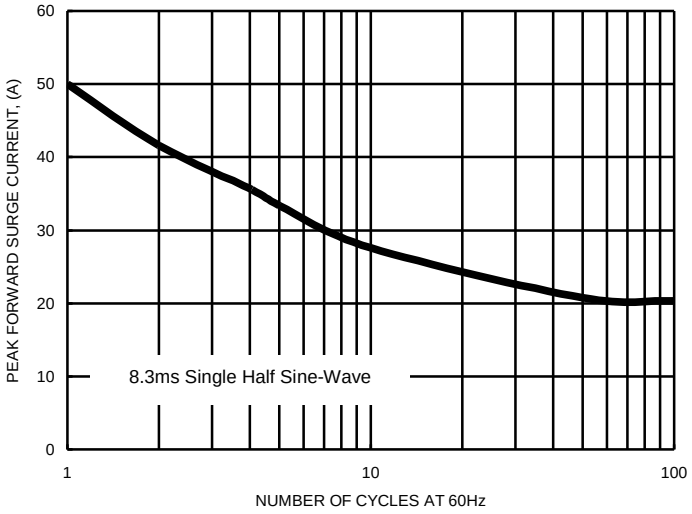


FIG.3- TYPICAL JUNCTION CAPACITANCE

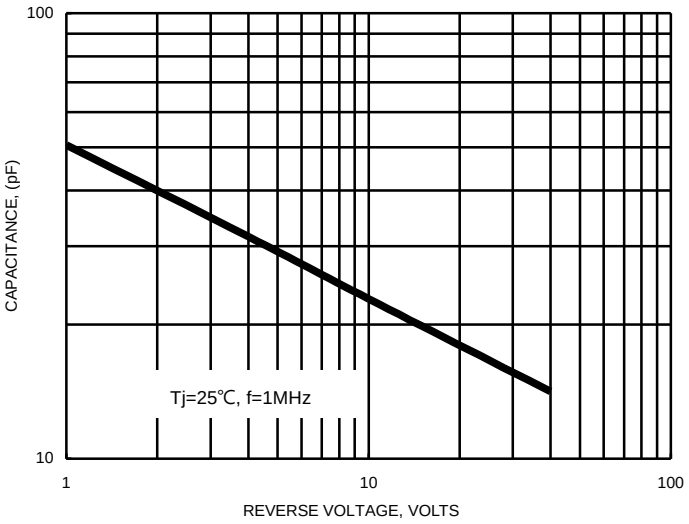


FIG.4- TYPICAL FORWARD CHARACTERISTICS

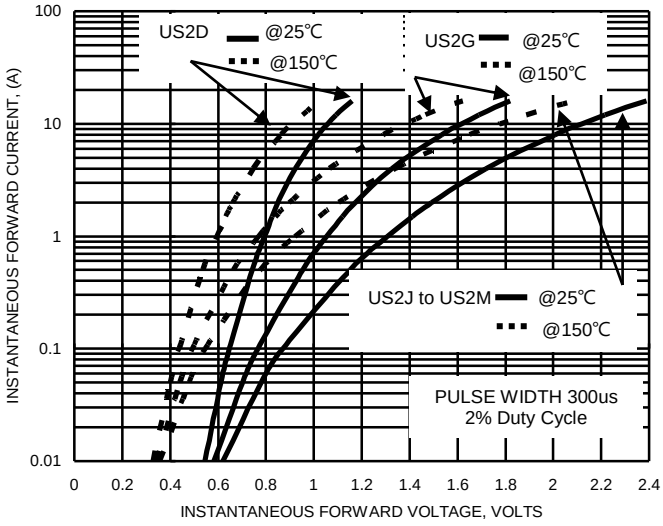
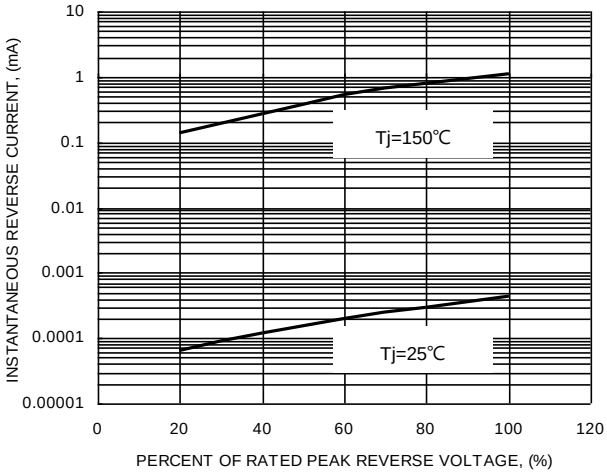


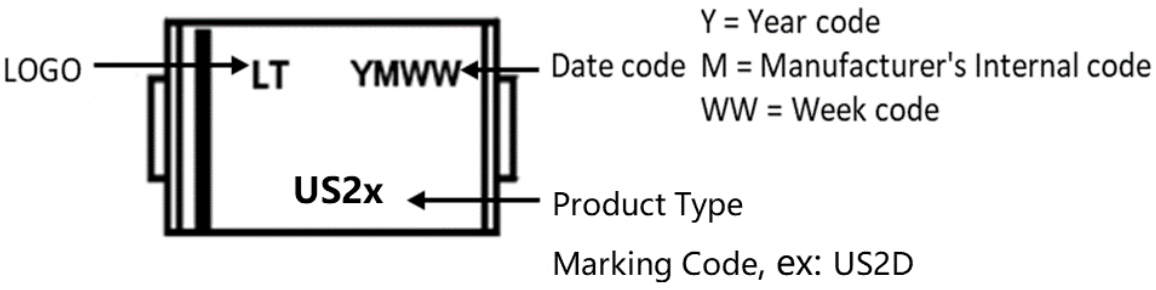
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
US2D_HF	SMB	3000pcs	Tape & Reel
US2G_HF	SMB	3000pcs	Tape & Reel
US2J_HF	SMB	3000pcs	Tape & Reel
US2K_HF	SMB	3000pcs	Tape & Reel
US2M_HF	SMB	3000pcs	Tape & Reel

Marking Information:



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