

FUS1JD-FUS1MD(LS)

SURFACE MOUNT ULTRA FAST RECTIFIER

**REVERSE VOLTAGE – 600 thru 1000 Volts
FORWARD CURRENT – 1.0 Ampere**

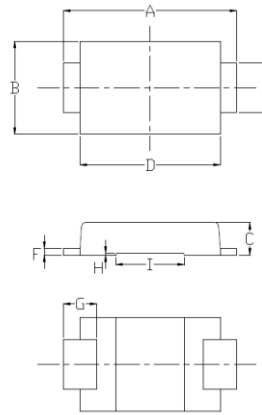
FEATURES

- 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
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

MECHANICAL DATA

- Package: JEDEC DO-221AC
- Package Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) “Halogen-free”
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish.)
- Component in accordance to RoHs 2002/95/EC
- Marking code: FUS1JD, FUS1MD

F3-D



F3-D			
DIM.	MIN.	TYP.	MAX.
A	4.80	5.20	5.60
B	2.25	2.80	2.95
C	0.90	1.00	1.10
D	3.95	4.20	4.60
E	1.25	1.50	1.65
F	0.15	0.20	0.40
G	0.75	1.00	1.50
H	0.025	0.05	0.075
I	1.90	2.05	2.20
All dimension in millimeter			

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	FUS1JD	FUS1MD	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	1000	V
Average rectified output current	I_F	1.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load.	I_{FSM}	30		A
Operation and storage temperature range	T_J, T_{STG}	-55 to +150		°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX.	UNIT
Forward voltage (Note 4)	$I_F=1.0A$ $T_J=25^\circ C$	V_F	1.7	V
Reverse leakage current	V_R rated $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	5.0 100	μA

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 5, 6)	R_{thJA}	90	°C/W
	R_{thJC}	10	
	R_{thJL}	25	

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX.	Unit
Reverse recovery time	$I_F=0.5A, I_{rr}=0.25A, I_R=1.0A$ $T_J=25^\circ C$	t_{rr}	75	ns

Note:

- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- 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.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 300us pulse width, 2% duty cycle.
- Thermal resistance test performed in accordance with JESD-51. R_{thJL} is measured at the PIN 2, R_{thJC} is measured at the top centre of body.
- Unit mounted on 5 mm x 7 mm copper pad.

REV. 2, NOV.-2021, KSFP03

RATING AND CHARACTERISTIC CURVES
FUS1JD-FUS1MD(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

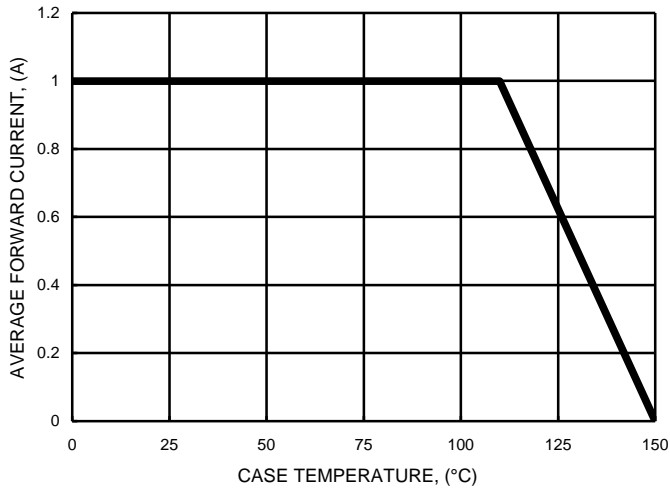


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

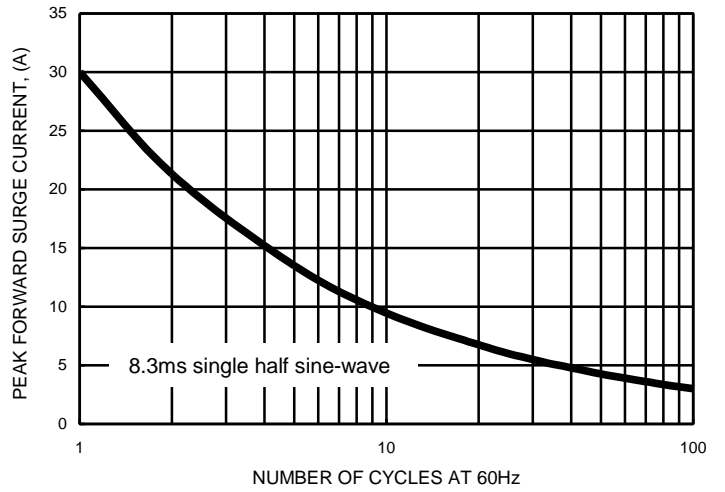


FIG.3- TYPICAL FORWARD CHARACTERISTICS

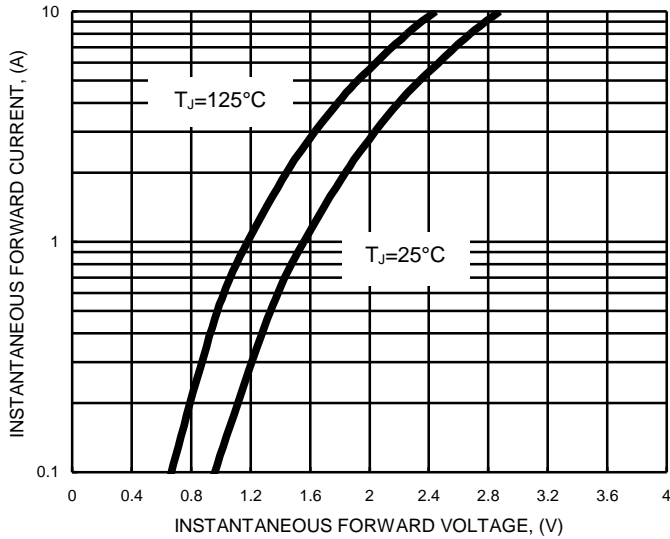


FIG.4- TYPICAL JUNCTION CAPACITANCE

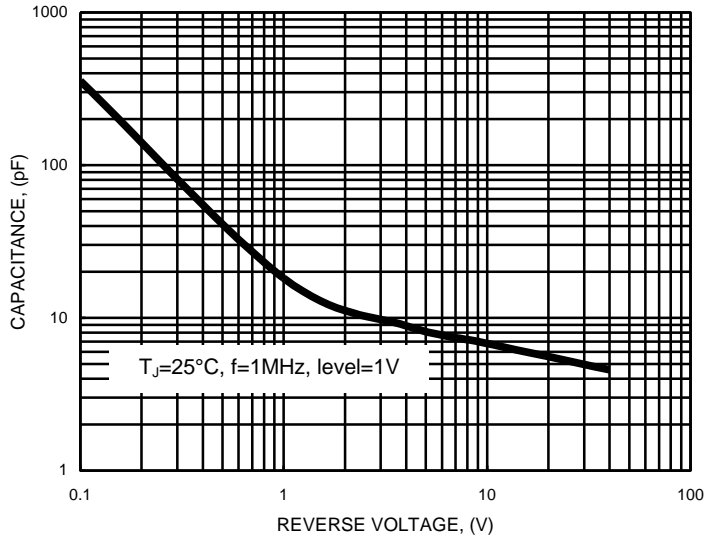
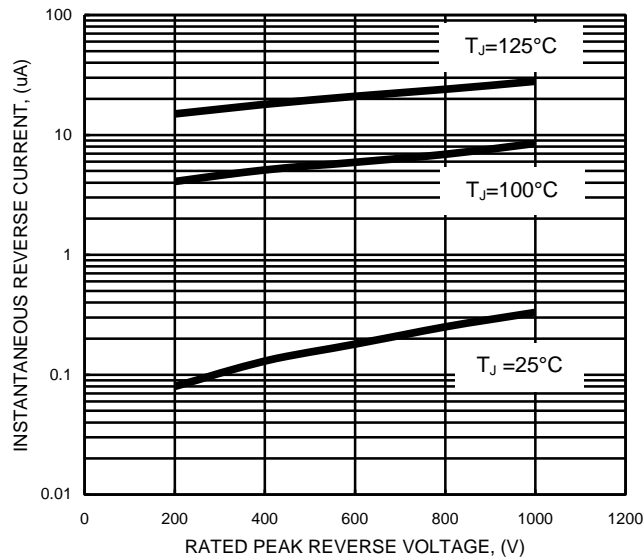


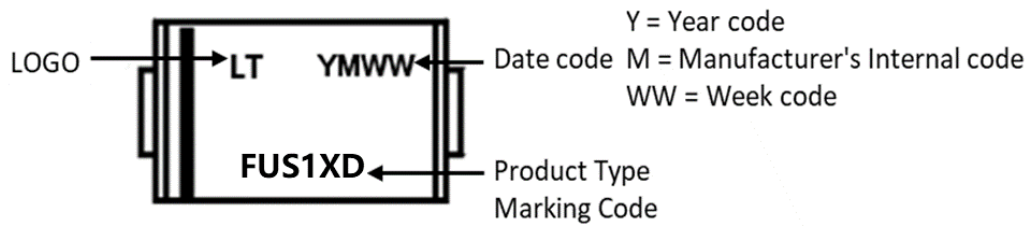
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
FUS1JD_HF	F3-D	10000	Tape & Reel
FUS1MD_HF	F3-D	10000	Tape & Reel
FUS1MD_HF-07	F3-D	3000	Tape & Reel

Marking Information:



Packaging Information:

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
FUS1JD FUS1MD	10000	13	10000	120K

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