

**SURFACE MOUNT
SUPER FAST RECTIFIER**

**REVERSE VOLTAGE – 200 Volts
FORWARD CURRENT – 1.0 Ampere**

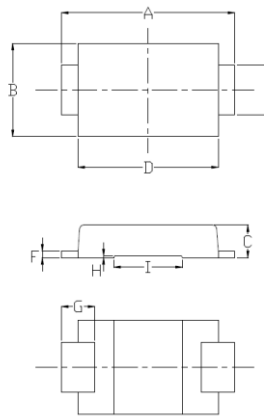
FEATURES

- Glass passivated chip
- Super 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

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	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Average rectified output current	I_F	1.0	A
Peak forward surge current 8.3ms 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 CONDITIONS	SYMBOL	MAX.	UNIT
Forward voltage (Note4)	$I_F=1.0A$ $T_J=25^\circ C$	V_F	0.92	V
Leakage current	$V_R=200V$ $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	5.0 200	μA

THERMAL CHARACTERISTICS

THERMAL CHARACTERISTIC	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note5,6)	R_{thJC} R_{thJL} R_{thJA}	15 30 90	°C/W

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	Max.	Unit
Reverse recovery time	$I_F=0.5A, I_{rr}=0.25A, I_R=1.0A$	t_{rr}	25	ns

Note :

REV. 3, Oct-2021, KSGP03

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. 300us Pulse Width, 2% Duty Cycle.
5. 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.
6. The device mounted on 5 mm x 7 mm copper pad.

RATING AND CHARACTERISTIC CURVES
FES1DD

FIG.1- FORWARD CURRENT DERATING CURVE

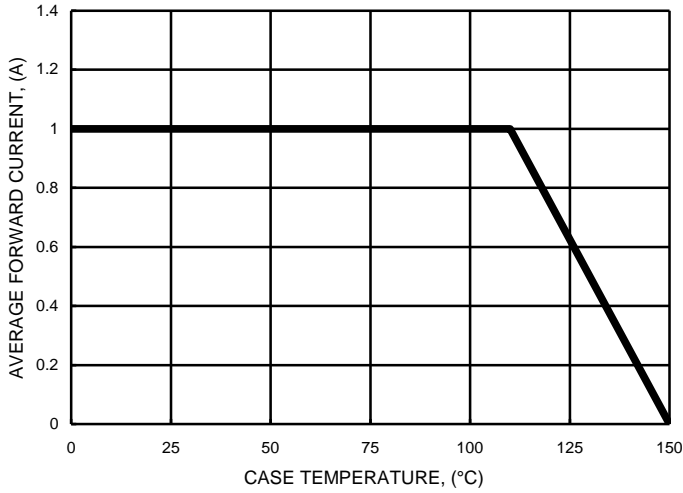


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

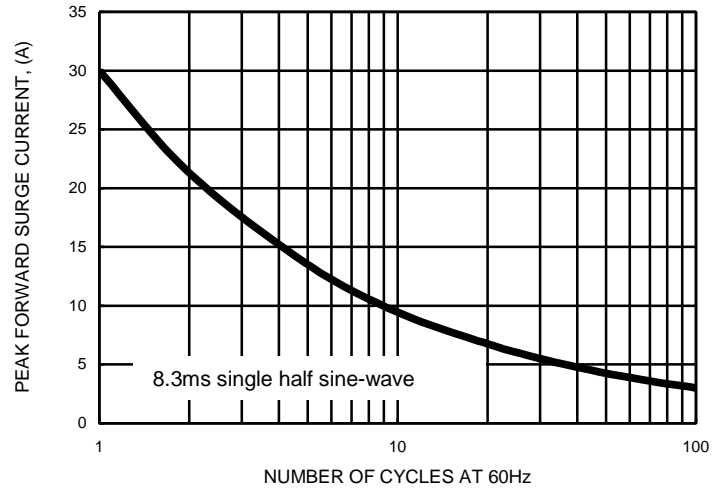


FIG.3- TYPICAL FORWARD CHARACTERISTICS

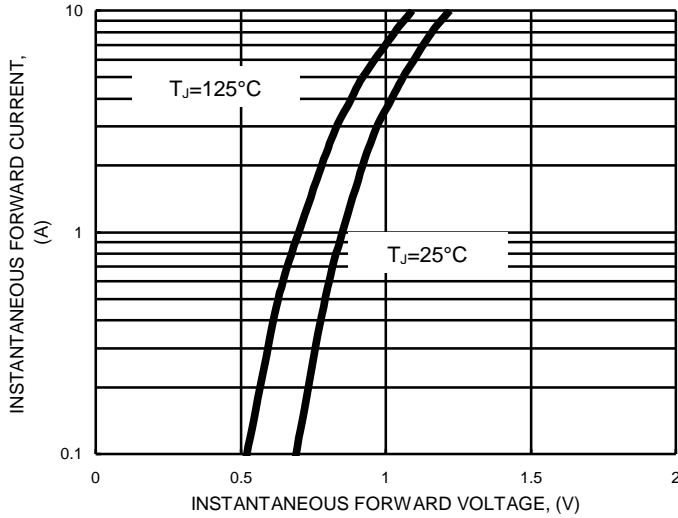


FIG.4- TYPICAL JUNCTION CAPACITANCE

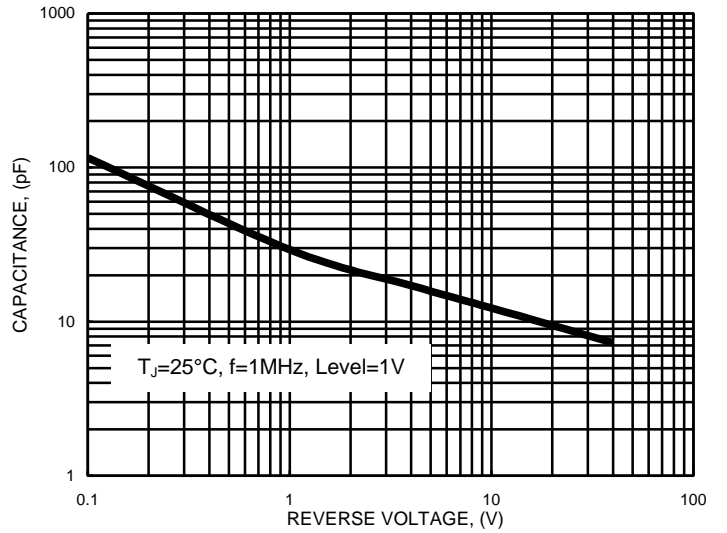
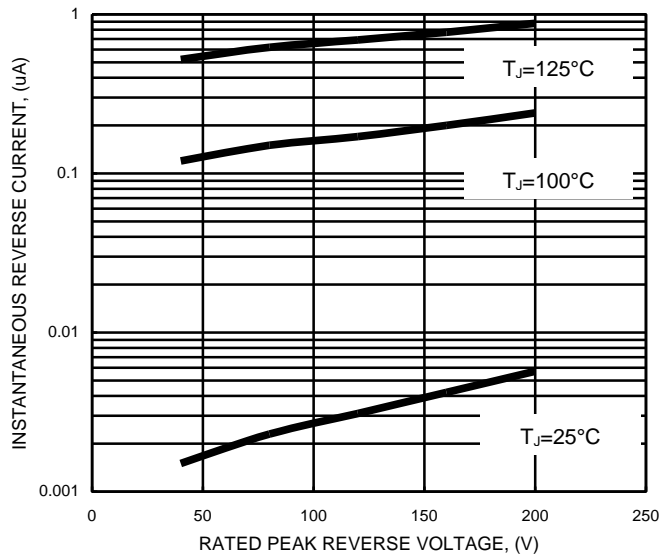


FIG.5- TYPICAL REVERSE CHARACTERISTICS



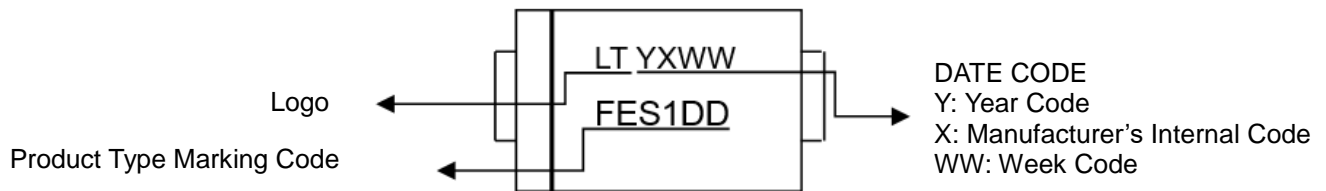
MARKING AND PACKAGING INFORMATION

FES1DD

Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
FES1DD_HF	F3-D	10000	Tape & Reel

Marking Information :



Packaging Information :

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
FES1DD	10000	13	10000	120K

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