

**SURFACE MOUNT
FAST RECOVERY RECTIFIER**

**REVERSE VOLTAGE – 600 Volts
FORWARD CURRENT – 1.5 Amperes**

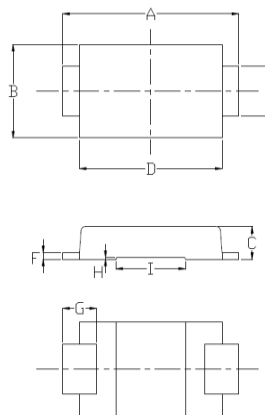
FEATURES

- Fast switching for high efficiency
- Glass passivated chip
- 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

- Case: JEDEC DO-221 AC
- Case Material: "Green" Molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Moisture Sensitivity: Level 1 per J-STD-020C
- Lead Free Finish, RoHS compliant
- Marking: FRS2JD
- Weight: 0.035 grams (Approximate)

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}	600	V
Maximum DC blocking voltage	V_{DC}	600	V
Maximum Average rectified forward current	$I_{(AV)}$	1.5	A
Peak forward surge 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Operating and Storage temperature range	T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F = 1.5A$ $T_J = 25^\circ C$	V_F	--	1.3	V
Reverse leakage current	$V_R = 600V$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R	--	5 200	μA
Typical junction capacitance (Note 5)		C_T		15	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6, 7)	R_{thJC}	16	°C/W
	R_{thJL}	14	
	R_{thJA}	55	

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Reverse Recovery Time	$I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	t_{rr}	250	ns

Note : 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. 300 us pulse width, 2% duty cycle

5. Measured at 1.0MHz and applied reverse voltage of 4.0V_{DC}.

6. Thermal Resistance Junction to Case and Ambient

7. Thermal Resistance test performed in accordance with JESD-50

REV. 1, Nov.-2021, KSGP11

**RATING AND CHARACTERISTIC CURVES
FRS2JD(LS)**

FIG.1- FORWARD CURRENT DERATING CURVE

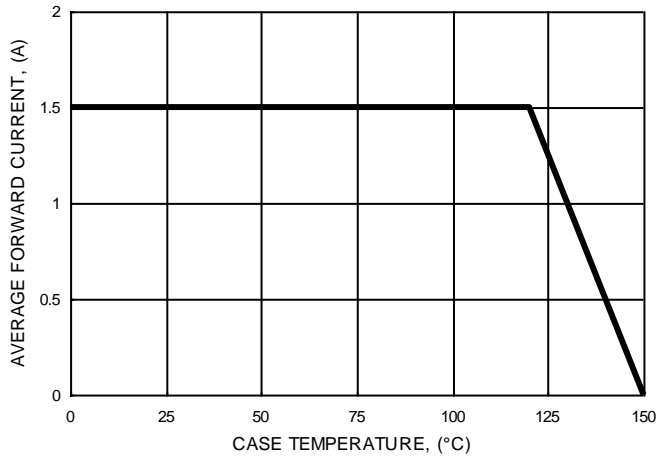


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

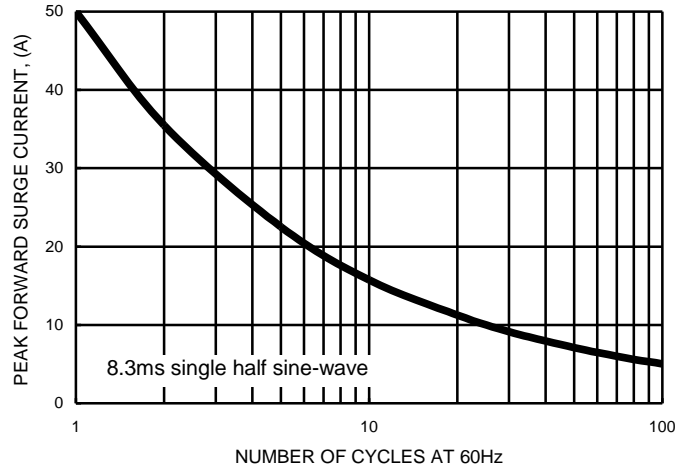


FIG.3- TYPICAL FORWARD CHARACTERISTICS

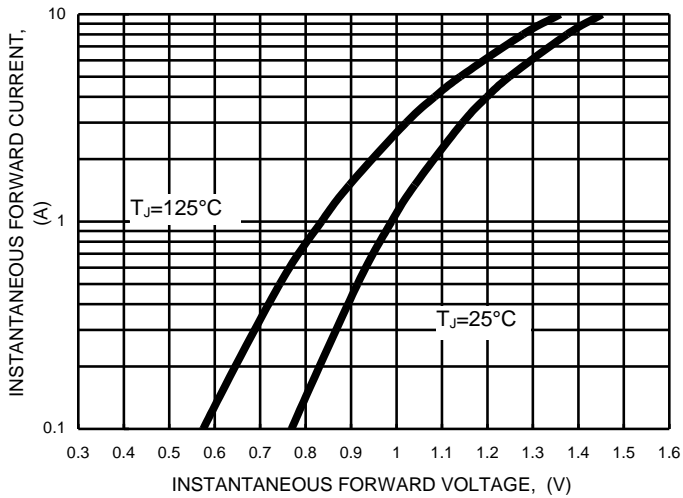


FIG.4- TYPICAL JUNCTION CAPACITANCE

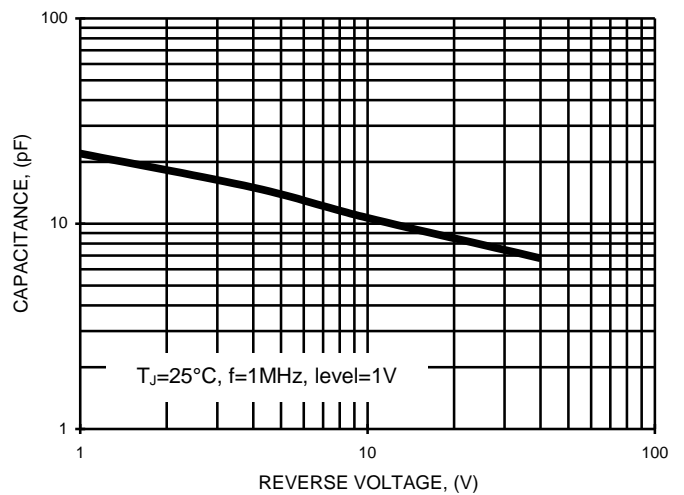
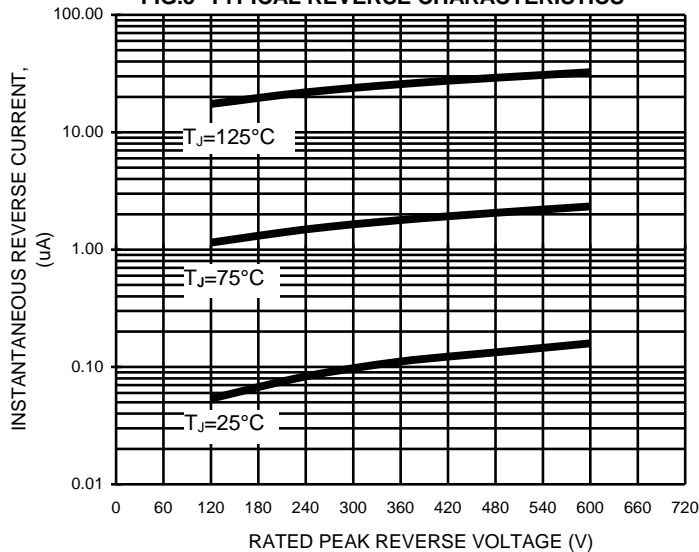


FIG.5- TYPICAL REVERSE CHARACTERISTICS

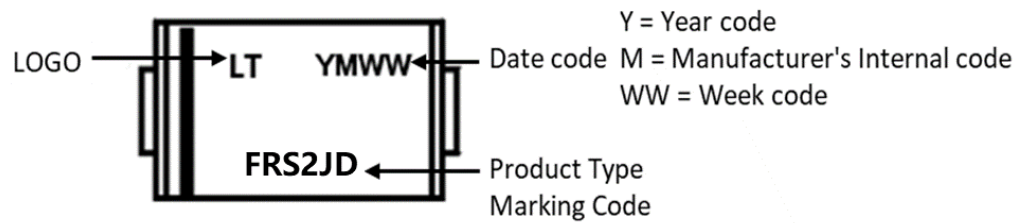


MARKING AND PACKAGING INFORMATION
FRS2JD(LS)

Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
FRS2JD_HF	F3-D	10000	Tape & Reel
FRS2JD_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)
FRS2JD	10000	13	10000	120K

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