A Product Line of Diodes Incorporated | LITE-ON SEMICONDUCTOR

FES1DE(LS)

SURFACE MOUNT SUPER FAST RECTIFIERS

REVERSE VOLTAGE – 200 Volts
FORWARD CURRENT – 1.0 Amperes

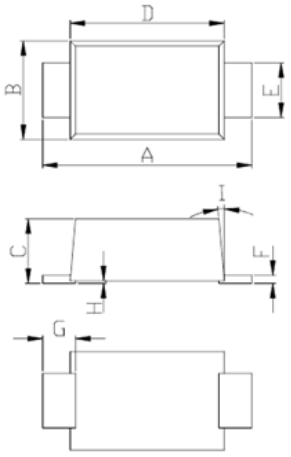
FEATURES

- Fast switching for high efficiency
- For surface mounted applications
- Glass passivated chip
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- 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

- Case: JEDEC DO-219AA
- Case Material: "Green" molding compound, UL flammability classification 94V-0,"Halogen-free".
- Terminals: Lead Free Plating (Matte Tin Finish.)
- Component in accordance to RoHs 2002/95/EC
- Marking code: E1D
- Weight: 16.5mg (Approximate)

F1A



F1A			
DIM	MIN	TYP	MAX
A	3.50	3.80	3.90
B	1.70	1.90	2.00
C	0.81	1.18	1.20
D	2.70	2.80	2.90
E	0.80	1.00	1.35
F	0.05	0.15	0.30
G	0.35	0.60	0.85
H	0.03	0.07	0.10
I	0°	5°	8°
All dimension in millimeter			

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATING

PARAMETER		SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	200	V
Maximum DC blocking voltage		V_{DC}	200	V
Average rectified forward current	@Tc=90°C	$I_{(AV)}$	1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load		I_{FSM}	30	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	I_F=1.0A	T_J=25°C	V_F	0.87	0.92	V
Leakage current	V_R=200V	T_J=25°C T_J=125°C	I_R	0.01 1.2	5 200	uA
Typical junction capacitance (Note 1)			C_T	20		pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical Thermal Resistance (Note 2)	R_{thJA} R_{thJL} R_{thJC}	115 45 55	°C/W

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_{rr}	25	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. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Thermal resistance test performed in accordance with JESD-51.

REV.-4, Oct-2021, KSEP09

RATING AND CHARACTERISTIC CURVES FES1DE(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

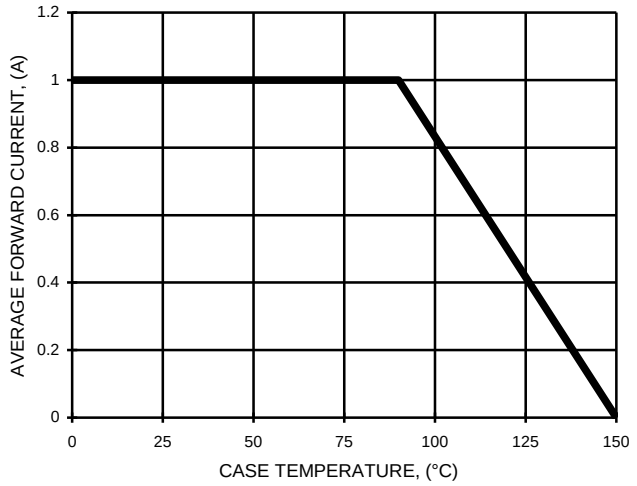


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

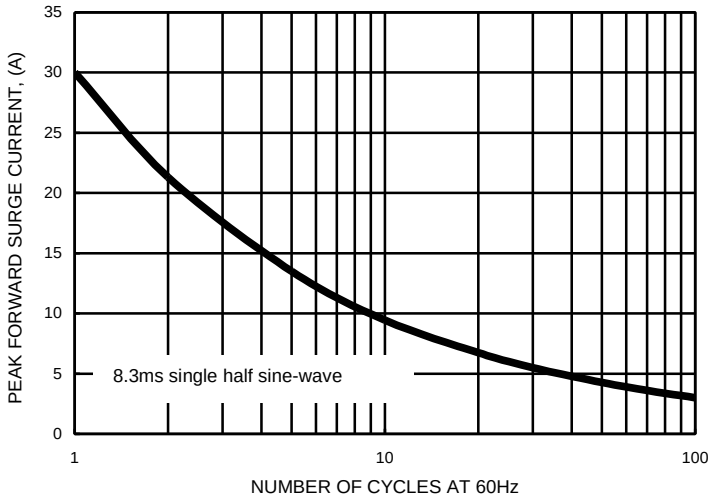


FIG.3- TYPICAL FORWARD CHARACTERISTICS

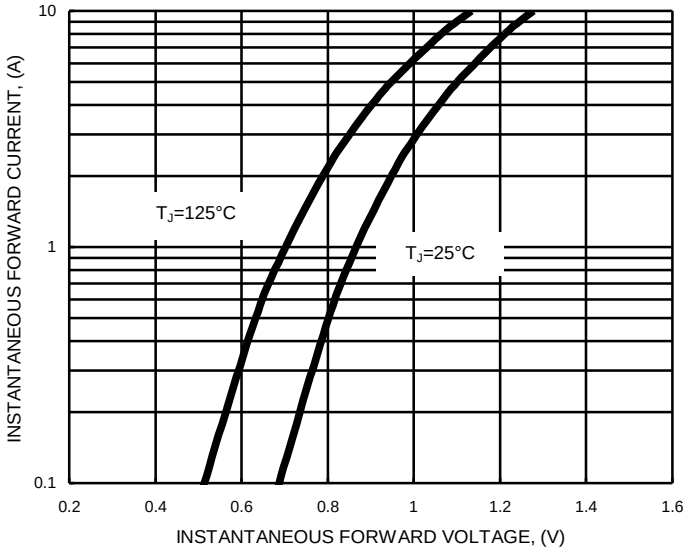


FIG.4- TYPICAL JUNCTION CAPACITANCE

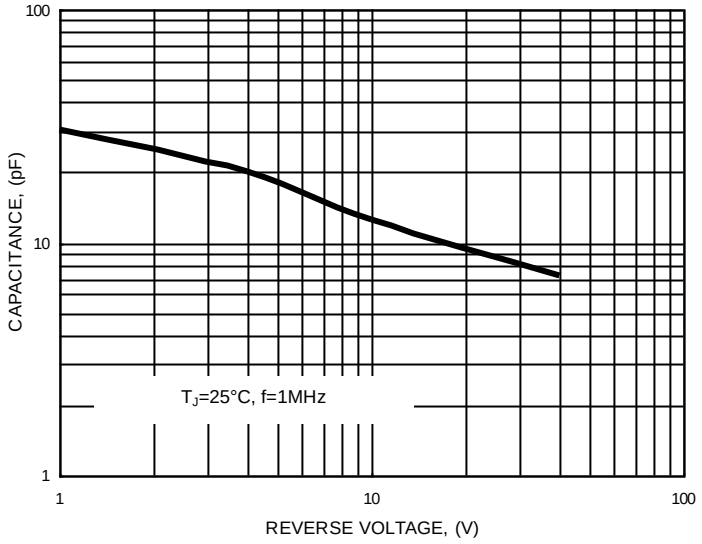
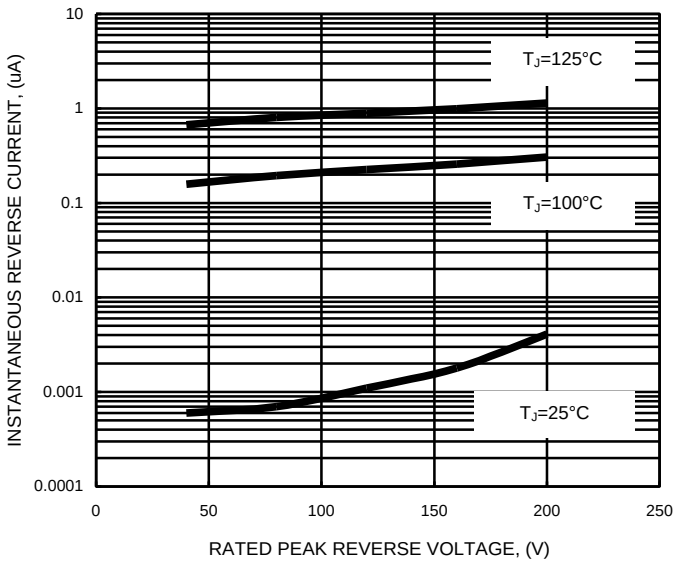


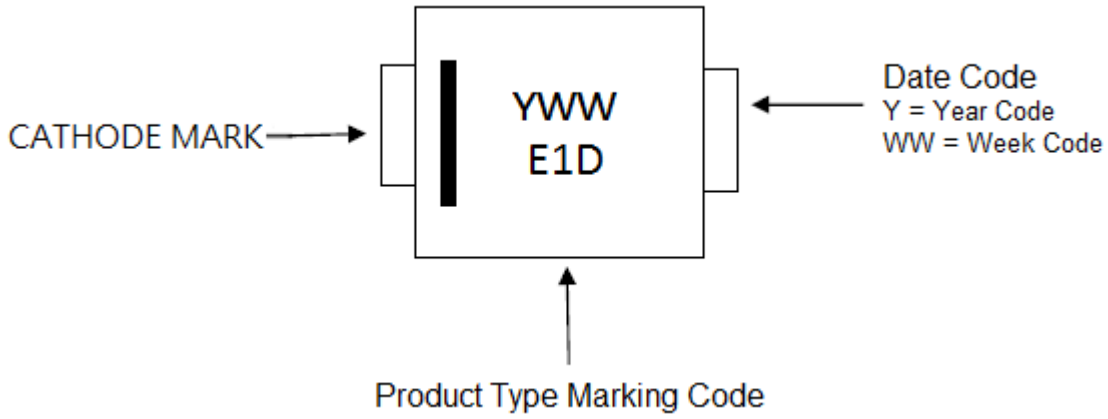
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
FES1DE	F1A	2500	Tape & Reel

Marking Information :



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