LITE-ON SEMICONDUCTOR

FRS3MB

SURFACE MOUNT
FAST RECOVERY RECTIFIER

REVERSE VOLTAGE – 1000 Volts
FORWARD CURRENT – 3 Amperes

FEATURES

- Glass Passivated Chip
- Fast switching for high efficiency
- For surface mounted application
- Low reverse leakage current
- Low forward voltage drop
- Qualification is according to AEC-Q101 Rev_C

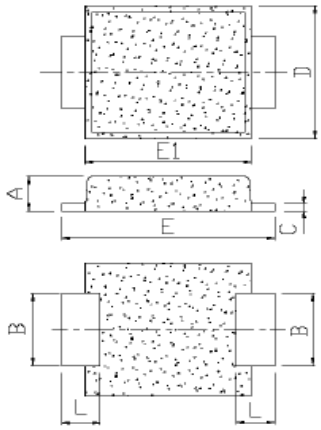
APPLICATION

- Power converters
- Switching-mode power supplies
- Freewheeling diodes

MECHANICAL DATA

- Case: JEDEC DO-221AA
- Case Material: "Green" molding compound, UL flammability classification 94V-0,(No Br. Sb. Cl.) "Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.0496 grams (Approximate)
- Marking code: FRS3MB

DO-221AA



DO-221AA		
DIM	MIN	MAX
A	0.90	1.10
B	1.95	2.20
C	0.15	0.40
D	3.30	3.95
E	5.10	5.60
E1	4.05	4.60
L	0.75	1.50
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}	1000	V
Maximum DC blocking voltage		V_{DC}	1000	V
Maximum Average rectified output current	@T_C=120°C	$I_{(AV)}$	3	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.		I_{FSM}	100	A
Operating junction and Storage Temperature range		T_J, T_{STG}	-55 ~ +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note1)	I_F=3A	T_J=25°C T_J=125°C	V_F	-- 0.90	1.3 --	V
Reverse Leakage current	V_R=1000V	T_J=25°C T_J=125°C	I_R	-- 47.9	5 250	uA

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}	250	nS

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 2,3)	$RthJ_C$ $RthJ_L$ $RthJ_a$	10 8 30	°C/W

Note :

REV.-1 , Sep-2019, KSEP14

(1) 300us pulse width, 2% duty cycle.
(2) Thermal resistance test performed in accordance with JESD-51.
(3) The unit mounted on 10mm x 10mm cooper heatsink

RATING AND CHARACTERISTIC CURVES
FRS3MB

LITEON

FIG.1 FORWARD CURRENT DERATING CURVE

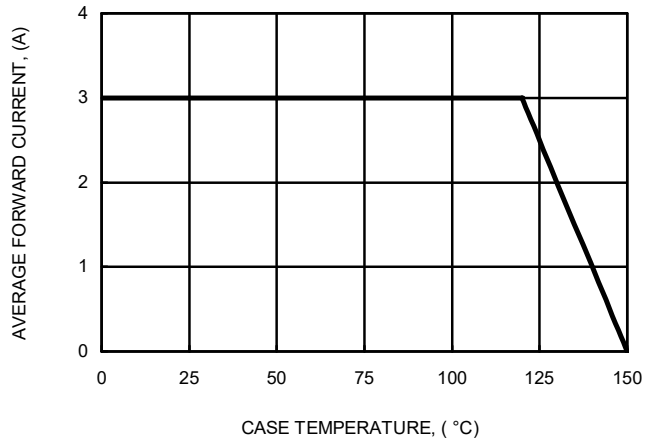


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

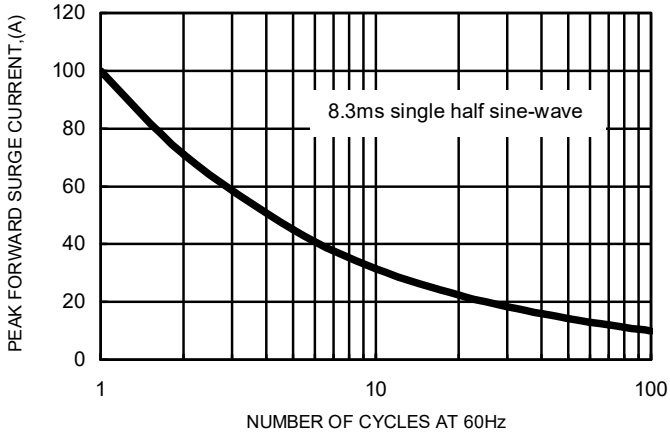


FIG.3 TYPICAL FORWARD CHARACTERISTICS

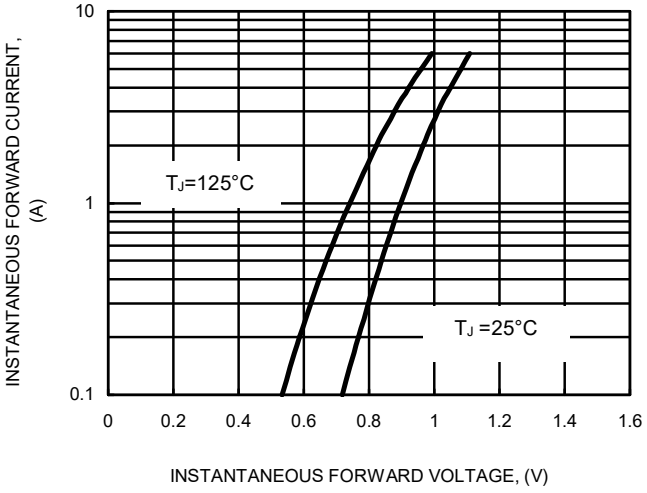


FIG.4 TYPICAL JUNCTION CAPACITANCE

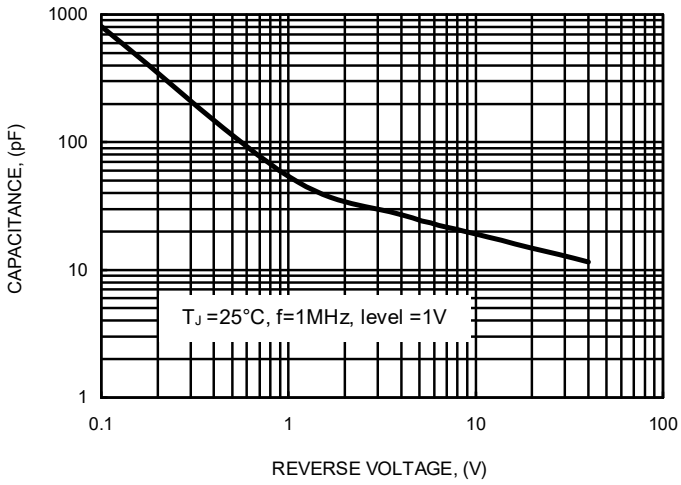
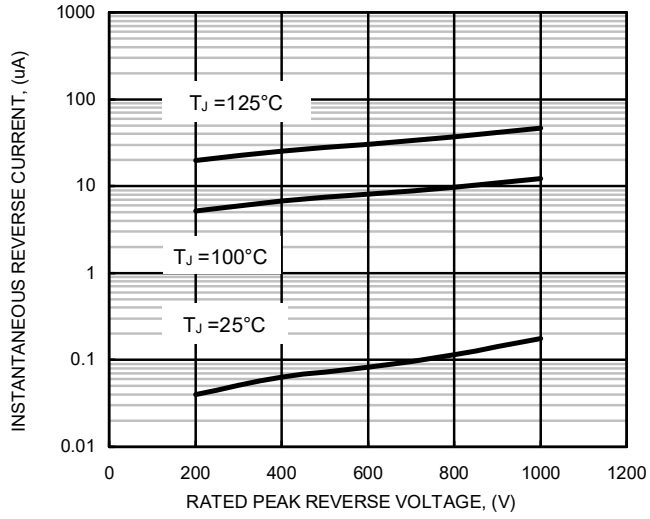


FIG.5 TYPICAL REVERSE CHARACTERISTICS



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