

S-EFMA240

Surface Mount Glass Passivated Super Fast Rectifiers
Reverse Voltage 220V Forward Current 2.0A

1. FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
- High temperature metallurgically bonded construction.
- For use in high frequency rectifier circuits.
- Fast switching for high efficiency.
- Cavity-free glass passivated junction.
- Capable of meeting environmental standards of MIL-S-19500.
- 2.0 A operation at $T_L=100^{\circ}\text{C}$ with no thermal runaway.
- High temperature soldering guaranteed: $260^{\circ}\text{C}/10$ seconds.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-EFMA240	EF24	7500/Tape&Reel

3. MAXIMUM RATINGS ($T_a = 25^{\circ}\text{C}$)

Parameter	Symbol	Limits	Unit
Maximum repetitive peak reverse voltage	VRRM	220	V
Maximum RMS voltage	VRMS	154	V
Maximum DC blocking voltage	VDC	220	V
Maximum average forward rectified current at $T_L = 100^{\circ}\text{C}$	IF(AV)	2	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	50	A
Typical thermal resistance (Note 2)	R θ JA	150	$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	TJ, TSTG	-50 ~ +150	$^{\circ}\text{C}$

4. ELECTRICAL CHARACTERISTICS ($T_a = 25^{\circ}\text{C}$)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum instantaneous forward voltage at $I_F=2.0\text{A}$	VF	-	-	0.95	V
Maximum DC reverse current @ $V_R=220\text{V}$, $T_A=25^{\circ}\text{C}$ @ $V_R=220\text{V}$, $T_J=125^{\circ}\text{C}$	IR	-	-	5 100	μA
Typical reverse recovery time (Note 1)	trr	-	35	-	ns
Typical junction capacitance at 4.0V, 1MHz	CJ	-	15	-	pF

Note: 1. $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
 2. 8.0mm^2 (.013mm thick) land areas
 3. VF & TRR & VDC & IR all test; other parameter is scheme out.

5. ELECTRICAL CHARACTERISTICS CURVES

Fig. 1 - Forward Current Derating Curve

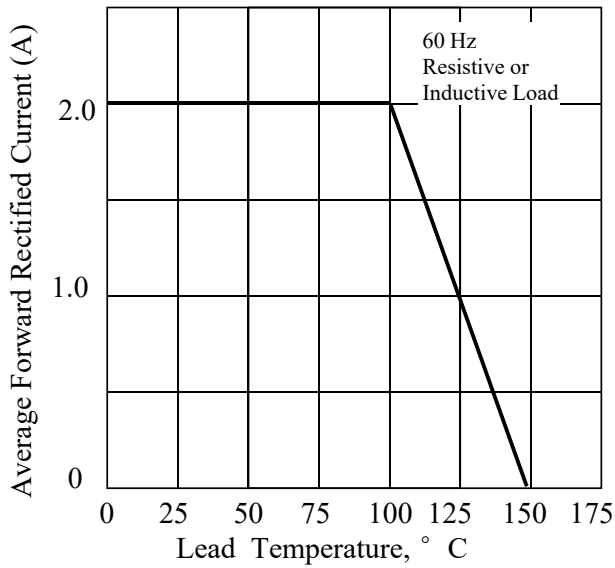


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

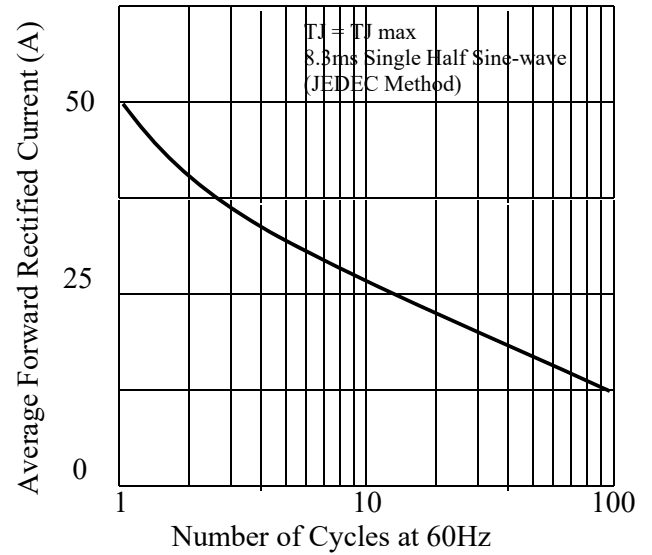


Fig 3. - Typical Instantaneous Forward Characteristics

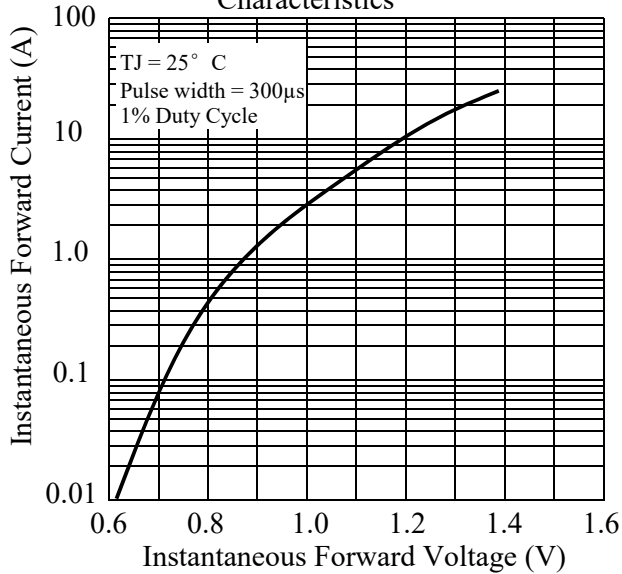


Fig 4. - Typical Reverse Characteristics

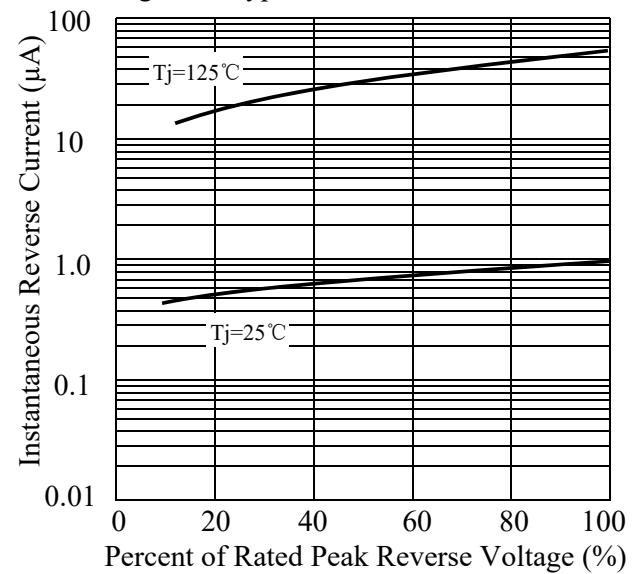


Fig 5. - Typical Transient Thermal Impedance

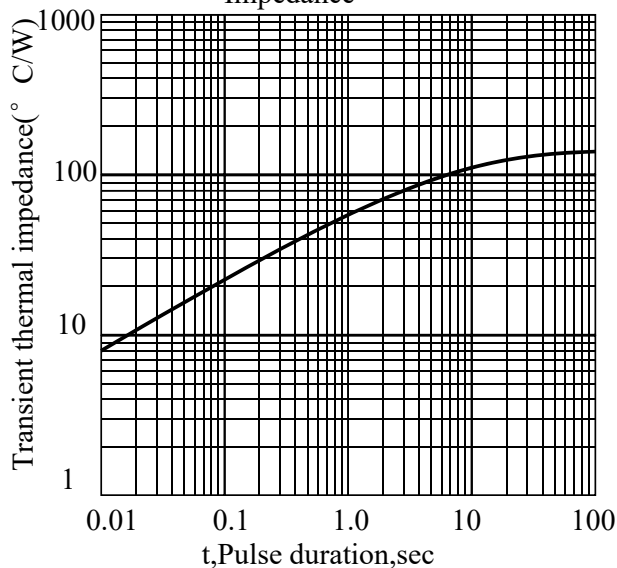
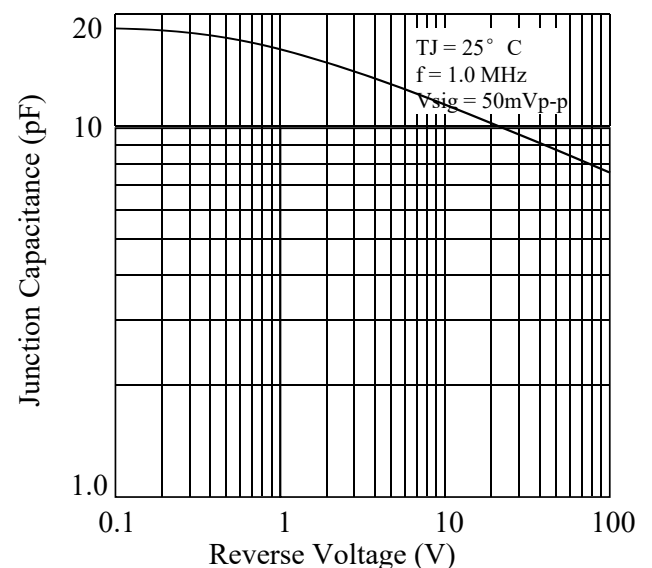
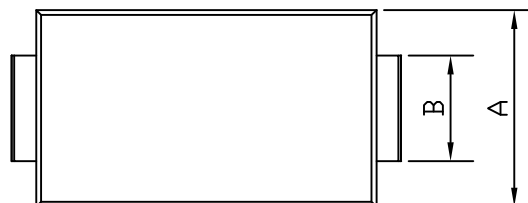
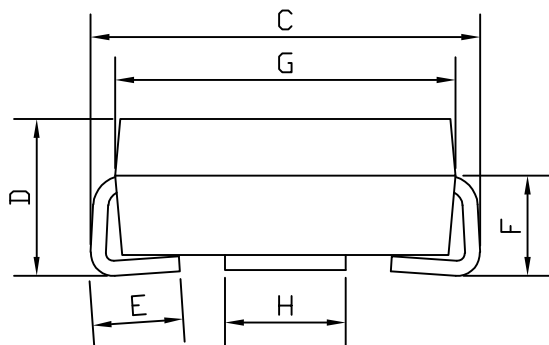


Fig 6. - Typical Junction Capacitance

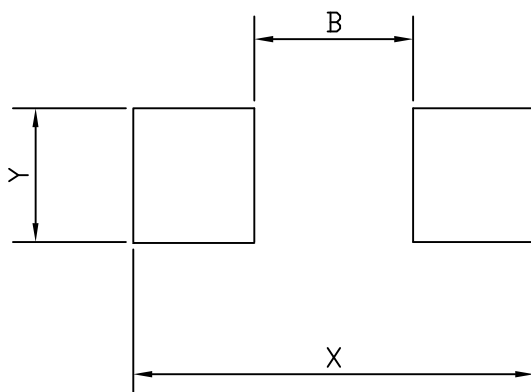


6. OUTLINE AND DIMENSIONS



SMA			
DIM	MIN	TYP	MAX
A	2.20	2.60	2.80
B	1.30	1.40	1.70
C	4.70	5.15	5.30
D	1.70	2.10	2.55
E	0.90	1.20	1.50
F	0.90	1.35	1.50
G	4.20	4.50	4.80
H	1.40	1.60	1.80
All Dimensions in mm			

7. SOLDERING FOOTPRINT



SMA		
DIM(mm)	Min	Max
X	5.30REF	
Y	1.72	1.82
B	1.90	2.30

8. REVISION HISTORY

Version	Description	Update by	Update Date
O	LRC ORIGINAL RELEASE.	Tan ZW	2018-09-18
A	D尺寸标注调	Chen S	2019-10-10
B	Update VR from 200V to 220V.	Chen S	2025-09-05

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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