

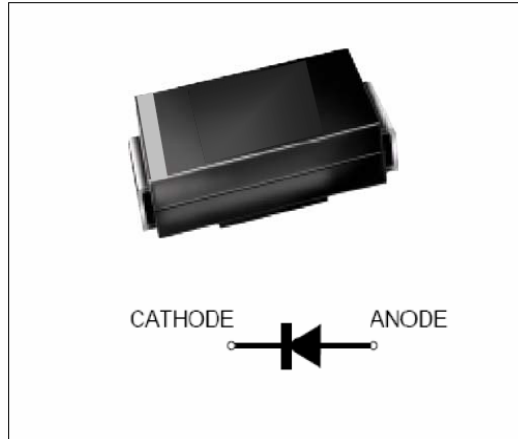
# S-FFM101 thru S-FFM107T

Surface Mount Glass Passivated Fast recovery Rectifiers

Reverse Voltage 50 to 1000V Forward Current 1.0A

## FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* High temperature metallurgically bonded construction
- \* Cavity-free glass passivated junction
- \* Capable of meeting environmental standards of MIL-S-19500
- \* Fast Switching for high efficiency
- \* Typical IR less than 1.0 $\mu$ A
- \* High temperature soldering guaranteed: 260 $^{\circ}$ C/10 seconds
- \* S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



We declare that the material of product compliance with ROHS requirements

## Mechanical Data

**Case:** JEDEC DO-214AC, molded plastic over glass body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position** Any

**Weight** 0.0023 oz., 0.065 g

**Handling precaution** None

## 1. Maximum & Thermal Characteristics Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	S-FFM 101	S-FFM 102	S-FFM 103	S-FFM 104	S-FFM 105	S-FFM 106	S-FFM 107	S-FFM 107P	S-FFM 107T	Unit
Device marking code		FF1	FF2	FF3	FF4	FF5	FF6	FF7	FF7P	FF7T	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	1000	1000	V
Maximum RSM voltage	$V_{RSM}$	35	70	140	280	420	560	700	700	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	1000	1000	V
Maximum average forward rectified current at $T_A = 75^{\circ}$ C	$I_F(AV)$	1.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30									A
Typical thermal resistance (Note 2)	$R_{\theta JA}$	150									$^{\circ}$ C/W
	$R_{\theta JC}$	40									
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150									$^{\circ}$ C

## Electrical Characteristics Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	FFM 101	FFM 102	FFM 103	FFM 104	FFM 105	FFM 106	FFM 107	FFM 107P	FFM 107T	Unit	
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3										V
Maximum DC reverse current $T_A = 25^{\circ}$ C at rated DC blocking voltage $T_A = 125^{\circ}$ C	$I_R$	5.0					100					$\mu$ A
Typical reverse recovery time (Note 1)	$t_{rr}$	150					500		250	160		ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	8.0										PF

NOTES:

1.  $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$

2. FR-4 Board, Heat sinks with single-sided copper foil, copper foil thickness 50 $\mu$ m 1.77\* 1.60 \* 2

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## 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

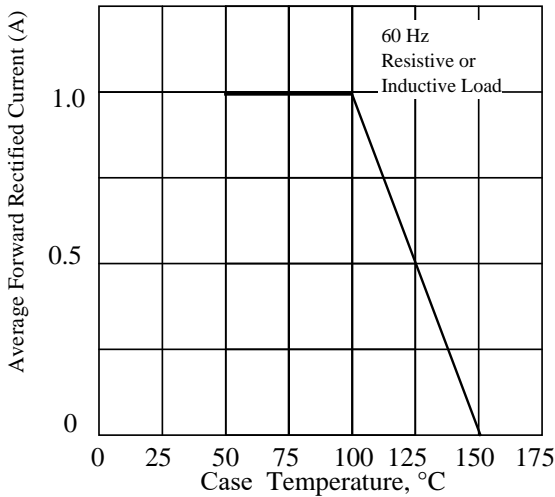


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

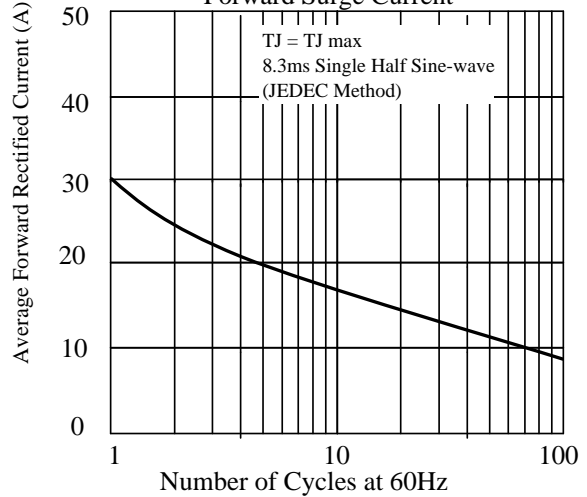


Fig 3. - Typical Instantaneous Forward Characteristics

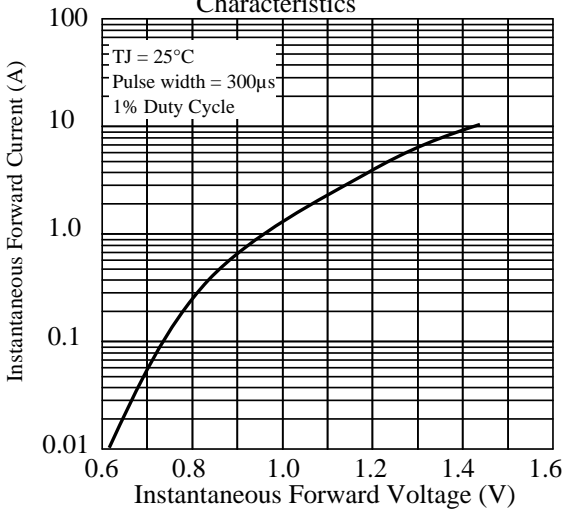


Fig 4. - Typical Reverse Characteristics

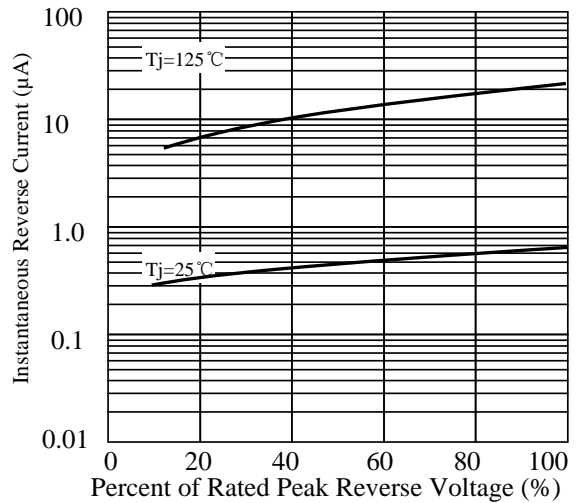


Fig 5. - typical transient thermal impedance

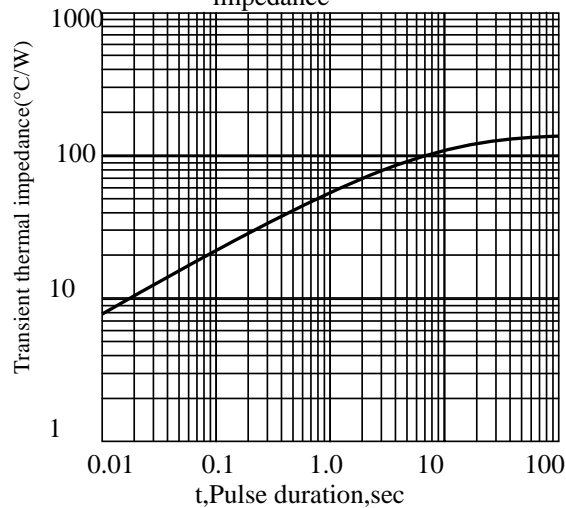
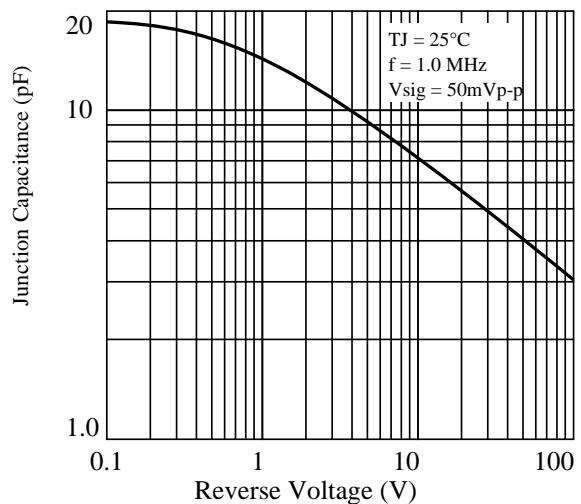


Fig 6. - Typical Junction Capacitance



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### 3. dimension:

