

EFM301L **THRU** EFM307L

SMCL

SURFACE MOUNT GLASS PASSIVATED SUPER FAST SILICON RECTIFIER VOLTAGE RANGE 50 to 600 Volts CURRENT 3.0 Ampere

FEATURES

- * Glass passivated device
- * Ideal for surface mounted applications
- * Low leakage current
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.24 gram

MECHANICAL DATA

* Epoxy : Device has UL flammability classification 94V-0

JEW REVEAS

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 $^{\circ}\text{C}$ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	EFM301L	EFM302L	EFM303L	EFM304L	EFM305L	EFM306L	EFM307L	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _A = 55°C	Io	3.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	125							Amps
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	47					50		
	R ₀ JL	12					15	°C/W	
Typical Junction Capacitance (Note 2)	CJ	50				30			pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150							٥C

$\textbf{ELECTRICAL CHARACTERISTICS} (@\text{TA=25} \ ^{\circ}\text{C unless otherwise noted})$

CHARACTERISTICS		SYMBOL	EFM301L	EFM302L	EFM303L	EFM304L	EFM305L	EFM306L	EFM307L	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC		VF	0.95				1.25		1.50	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T _A = 25°C		5.0							
	@T _A = 100°C	- IR	100							μAmps
Maximum Reverse Recovery Time (Note 1)		trr	35 50						50	nSec

NOTES: 1. Reverse Recovery Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A

- 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts
- 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
- 4. Thermal Resistance : Mounted on PCB.

2006-12

RATING AND CHARACTERISTICS CURVES (EFM301L THRU EFM307L)

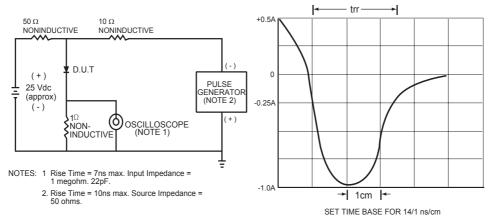
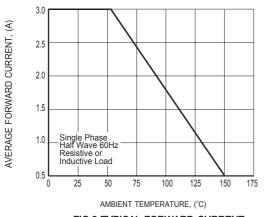
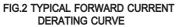


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC





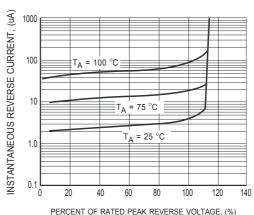
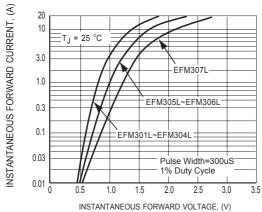


FIG.3 TYPICAL REVERSE CHARACTERISTICS



RATING AND CHARACTERISTICS CURVES (EFM301L THRU EFM307L)



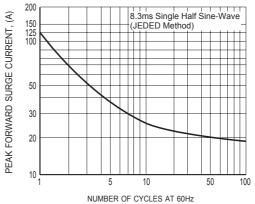


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

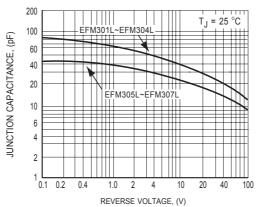
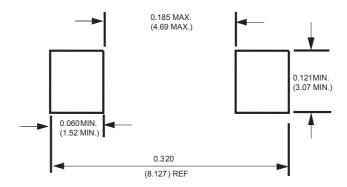


FIG.6 TYPICAL JUNCTION CAPACITANCE



Mounting Pad Layout



Dimensions in inches and (millimeters)



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