EGFM101-AF Thru EGFM104-AF

List

EGFM101-AF Thru EGFM104-AF

1A Surface Mount Super Fast Rectifier : 50V ~ 400V

Features

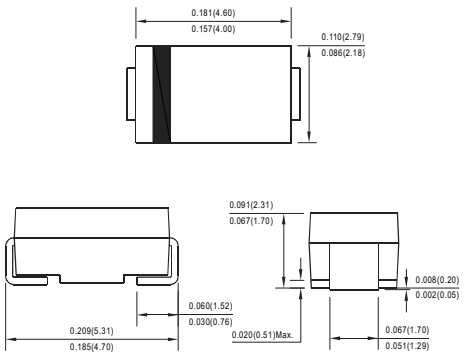
- Super fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Solder dip 260 °C, 40 s
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex.EGFM101-AF-H.

Mechanical data

- Epoxy:UL94-V0 rated Flame retardant.
- Case : Molded plastic, SMA-F.
- Terminals : Solder plated, solder able per MIL-STD-750,Method 2026.
- Polarity : Color band denotes cathode end.
- Mounting Position : Any.
- Weitht: 0.07 grams

Package outline

SMA-F



Dimensions in inches and (millimeters)

Maximum ratings and electrical characteristics

Ratings at 25ºC ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load, for capacitive load current derate by 20%.

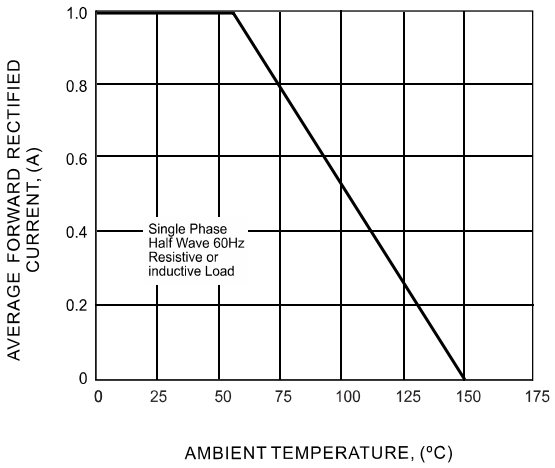
Parameter	Symbol	EGFM101-AF	EGFM102-AF	EGFM103-AF	EGFM104-AF	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	V
Maximum average forward rectified current at T_A=55℃	$I_{(AV)}$	1.0				A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Mothod)	I_{FSM}	30.0				A
Maximum instantaneous forward voltage at 1.0A	V_F	0.95			1.25	V
Maximum DC reverse current (T_A = 25℃) At rated DC blocking voltage (T_A = 100℃)	I_R	5.0 50.0				μA
Maximum reverse recovery time (Note 1)	T_{rr}	25				ns
Typical junction capacitance (Note 2)	C_J	15.0				pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	60.0				℃/W
Operating junction temperature	T_J	+150				℃
Storage temperature range	T_{STG}	-65 to +150				℃

Note : 1. Reverse recovery condition I_F=0.5A,I_R=1.0A,I_{rr}=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.Mounted on 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

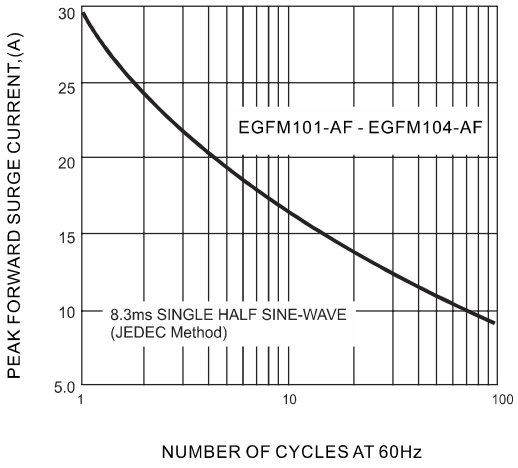
EGFM101-AF Thru EGFM104-AF

Rating and characteristic curves (T_A=25°C unless otherwise noted)

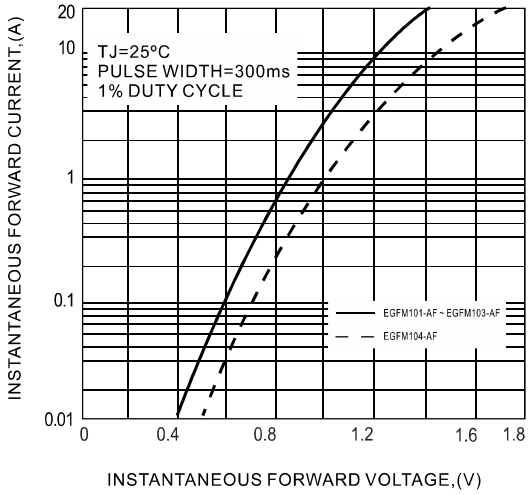
FORWARD CURRENT DERATING CURVE



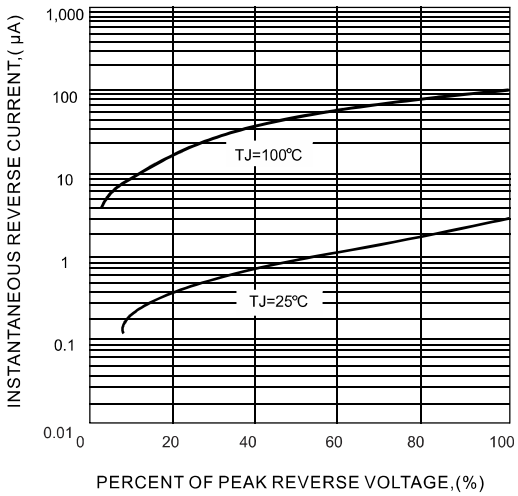
FORWARD CURRENT DERATING CURVE



TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



TYPICAL REVERSE CHARACTERISTICS



EGFM101-AF Thru EGFM104-AF

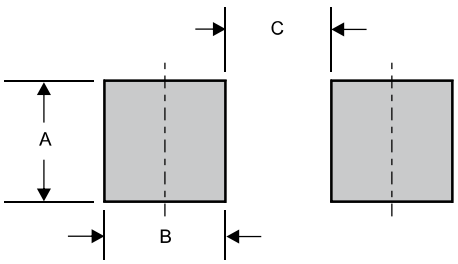
Pinning information

Pin	Simplified outline	Symbol
Pin 1 Cathode Pin 2 Anode		

Marking

Type number	Marking code
EGFM101-AF	ES1AT
EGFM102-AF	ES1BT
EGFM103-AF	ES1DT
EGFM104-AF	ES1GT

Suggested solder pad layout

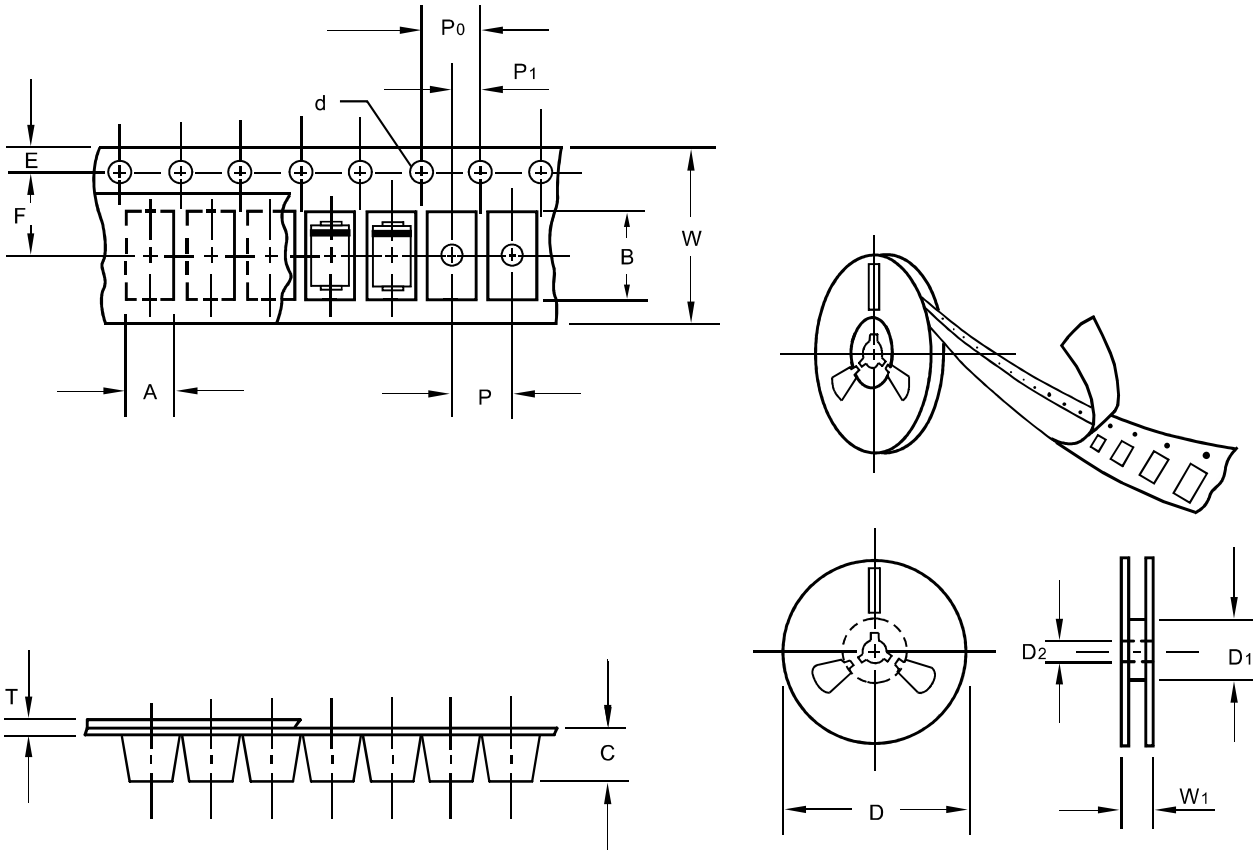


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA-F	0.068 (1.70)	0.104 (2.60)	0.060(1.50)

EGFM101-AF Thru EGFM104-AF

Packing information



unit:mm

Item	Symbol	Tolerance	SMA-F
Carrier width	A	0.1	2.79
Carrier length	B	0.1	5.33
Carrier depth	C	0.1	2.36
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D_1	min	72.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	12.00
Reel width	W_1	1.0	18.00

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

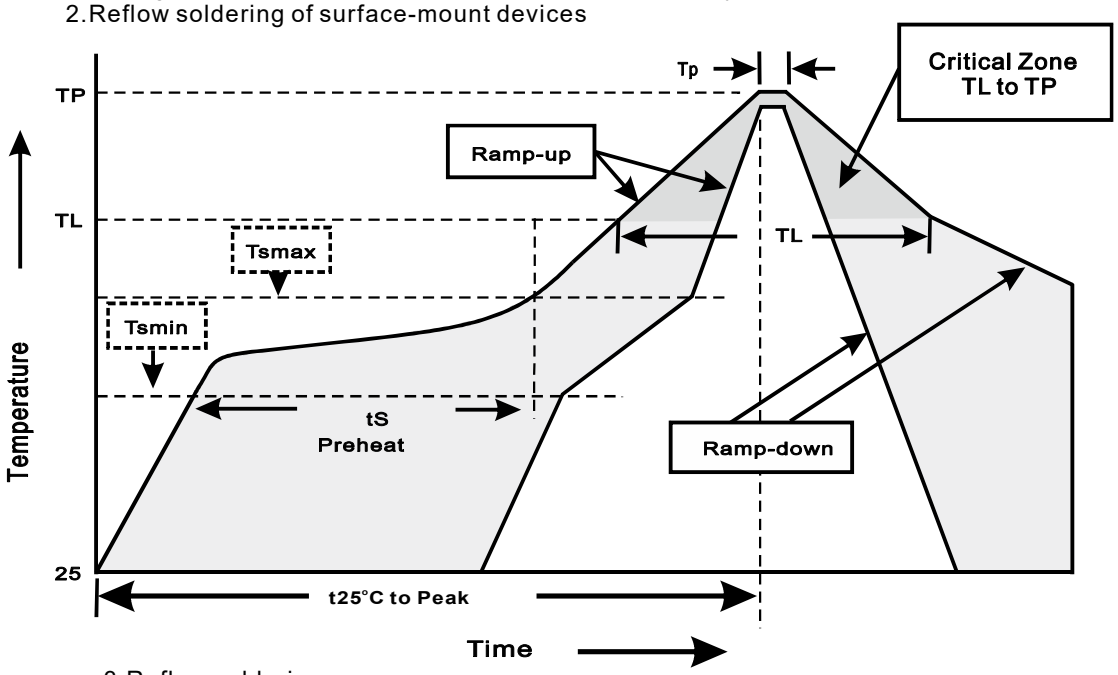
EGFM101-AF Thru EGFM104-AF

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMA-F	13"	5,000	4.0	10,000	335*335*38	330	350*330*360	80,000	13.50

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes