RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

EFM504

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 200 Volts CURRENT 5.0 Ampere

FEATURES

* High reliability
* Low leakage
* Low forward voltage
* High current capability
* Super fast switching speed
* High surge capability
* Good for switching mode circuit

MECHANICAL DATA

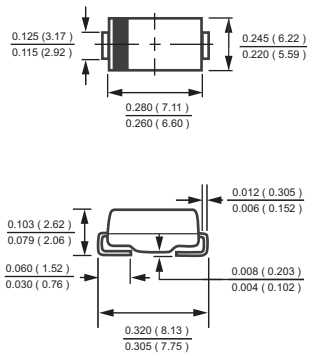
* Case: Molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.253 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.



SMC



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	EFM504	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	Volts
Maximum RMS Voltage	V_{RMS}	140	Volts
Maximum DC Blocking Voltage	V_{DC}	200	Volts
Maximum Average Forward Rectified Current at T_A = 55°C	I_O	5.0	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	Amps
Current Squarad Time	I^2t	93.4	A^2/Sec
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	20	°CW
	$R_{\theta JL}$	5.0	
Typical Junction Capacitance (Note 2)	C_J	50	pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

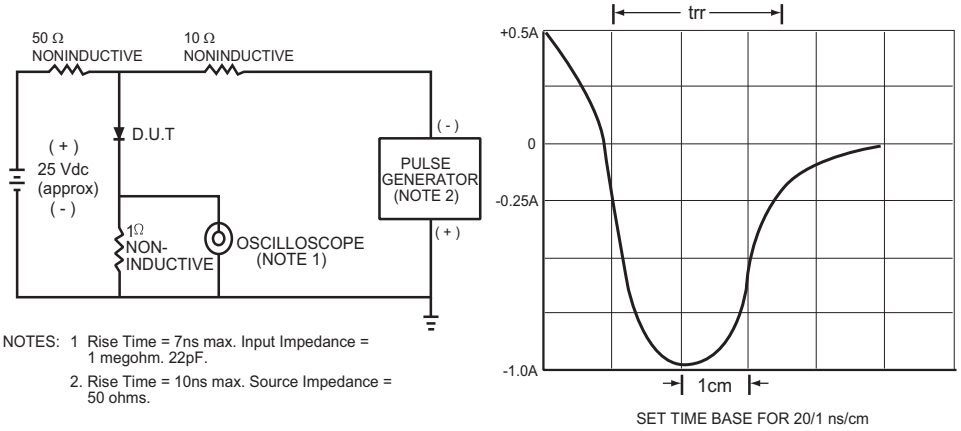
ELECTRICAL CHARACTERISTICS(@T_A=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	EFM504	UNITS
Maximum Instantaneous Forward Voltage at 5.0A DC		V_F	.95	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	5.0	uAmps
	@T_A = 100°C		100	
Maximum Reverse Recovery Time (Note 1)		trr	35	nSec

NOTES : 1. Test Conditions: I_F = 0.5A, I_R = -1.0A, I_{RR} = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Typical Thermal Resistance : At 9.5mm lead lengths,PCB mounted.
4. "Fully ROHS complaint", "100% Sn plating (Pb-free)"

2016-06
REV:O

RATING AND CHARACTERISTICS CURVES (EFM504)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.

SET TIME BASE FOR 20/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

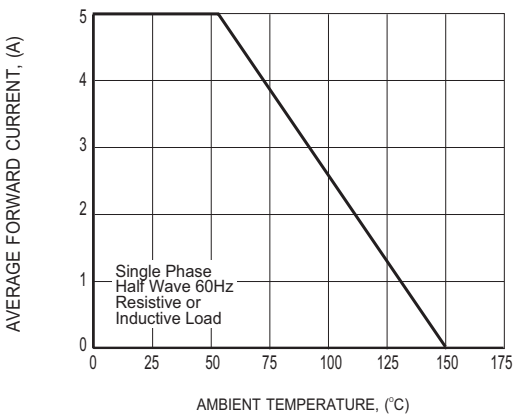


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

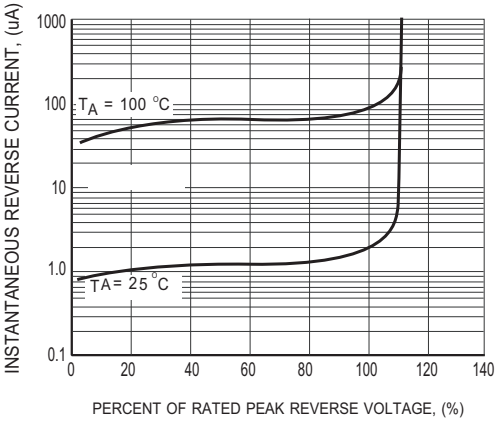


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (EFM504)

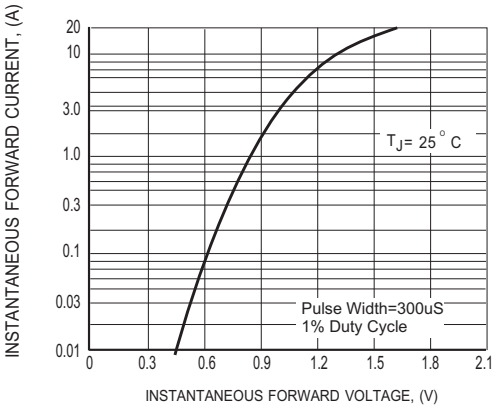


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

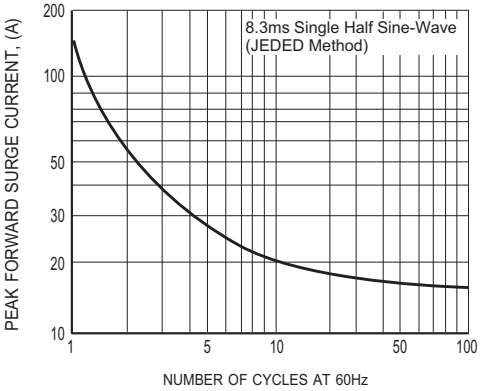


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

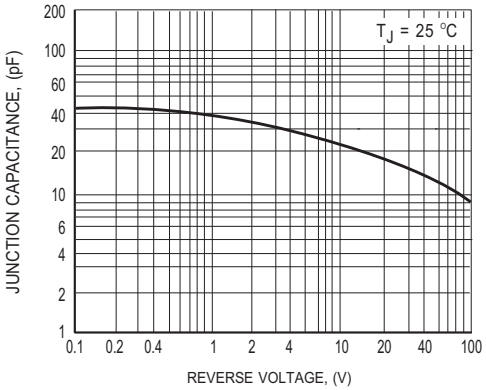


FIG.6 TYPICAL JUNCTION CAPACITANCE

REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES-FLAT MELF (SMA/SMB/SMC)

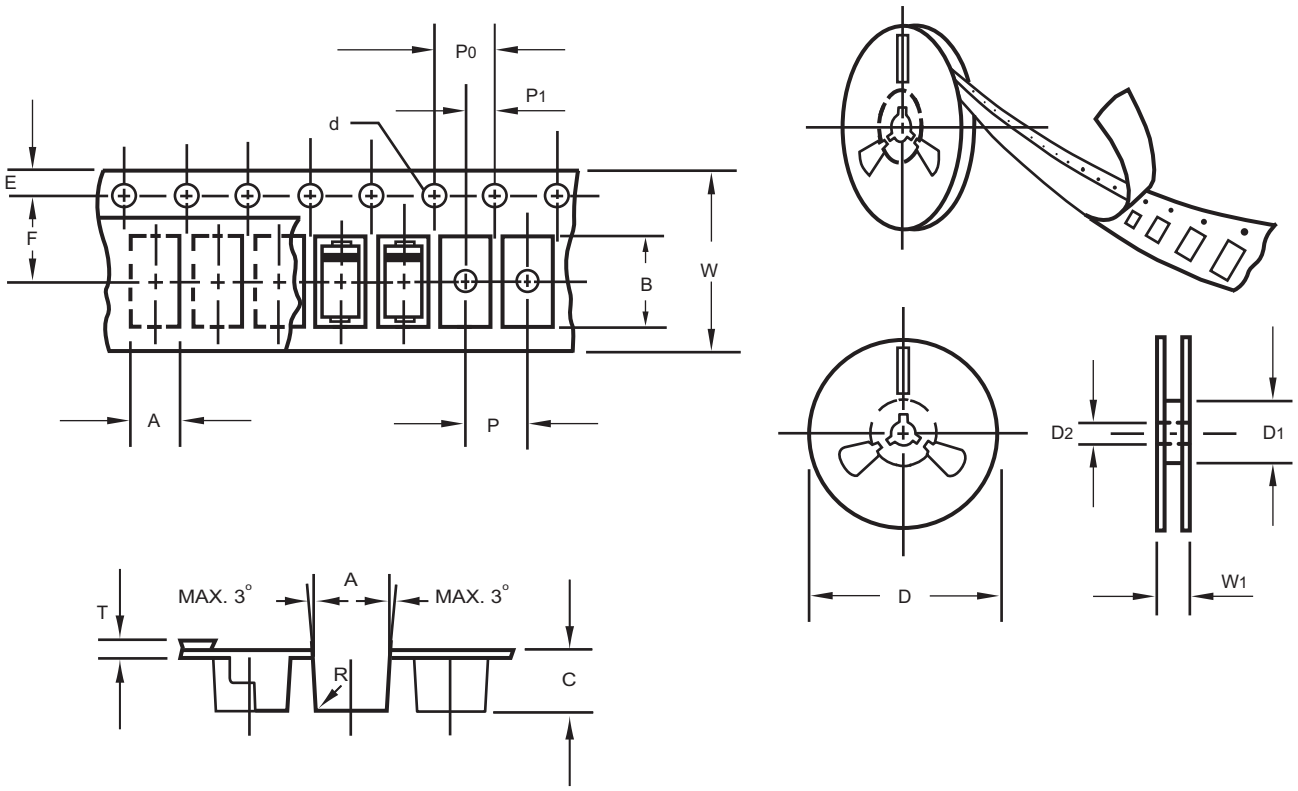


Fig.: Configuration of FLAT MELF TAPING (SMA/SMB/SMC)

ITEM	SYMBOL	DO214AC (SMA) mm(inch)	DO214AA (SMB) mm(inch)	DO214AB (SMC) mm(inch)
Carrier width	A	2.6 ± 0.15 (.102 ± .006)	3.65 ± 0.1 (.144 ± .004)	6.0 ± 0.1 (.236 ± .004)
Carrier length	B	5.15 ± 0.15 (.203 ± .006)	5.69 ± 0.1 (.224 ± .004)	8.30 ± 0.1 (.327 ± .004)
Carrier depth	C	2.3 ± 0.15 (.091 ± .006)	2.67 ± 0.1 (.105 ± .004)	2.5 ± 0.1 (.098 ± .004)
Sprocket hole	d	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)
Reel outside diameter	D	178 ± 2.0 (7.0 ± .079)	178 ± 2.0 (7.0 ± .079)	178 ± 2.0 (7.0 ± .079)
Reel inner diameter	D_1	50 Min.	50 Min.	50 Min.
Feed hole diameter	D_2	13 ± 0.5 (.512 ± .020)	13 ± 0.5 (.512 ± .020)	13 ± 0.5 (.512 ± .020)
Stroket hole position	E	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)	1.5 ± 0.1 (.059 ± .004)
Punch hole position	F	5.65 ± 0.05 (.222 ± .002)	5.65 ± 0.05 (.222 ± .002)	7.65 ± 0.05 (.301 ± .002)
Punch hole pitch	P	4.0 ± 0.1 (.157 ± .004)	8.0 ± 0.1 (.315 ± .004)	8.0 ± 0.1 (.315 ± .004)
Sprocket hole pitch	P_0	4.0 ± 0.1 (.157 ± .004)	4.0 ± 0.1 (.157 ± .004)	4.0 ± 0.1 (.157 ± .004)
Embossment center	P_1	2.0 ± 0.1 (.079 ± .004)	2.0 ± 0.1 (.079 ± .004)	4.0 ± 0.1 (.157 ± .004)
Totall tape thickness	T	0.30 ± .05 (.012 ± .002)	0.6 Max.	0.6 Max.
Tape width	W	12.0 ± 0.2 (.472 ± .008)	12.0 ± 0.2 (.472 ± .008)	16.0 ± 0.2 (.630 ± .008)
Reel width	W_1	16.8 ± 2.0 (.661 ± .079)	16.8 ± 2.0 (.661 ± .079)	24.0 ± 2.0 (.945 ± .079)

Notes: 1.Devices are packed in accordance with EIA standard RS-481-A and specification given above.
2.Available on 7 inch (1500 ct.) or 13 inch (5000 ct.) diameter reels.

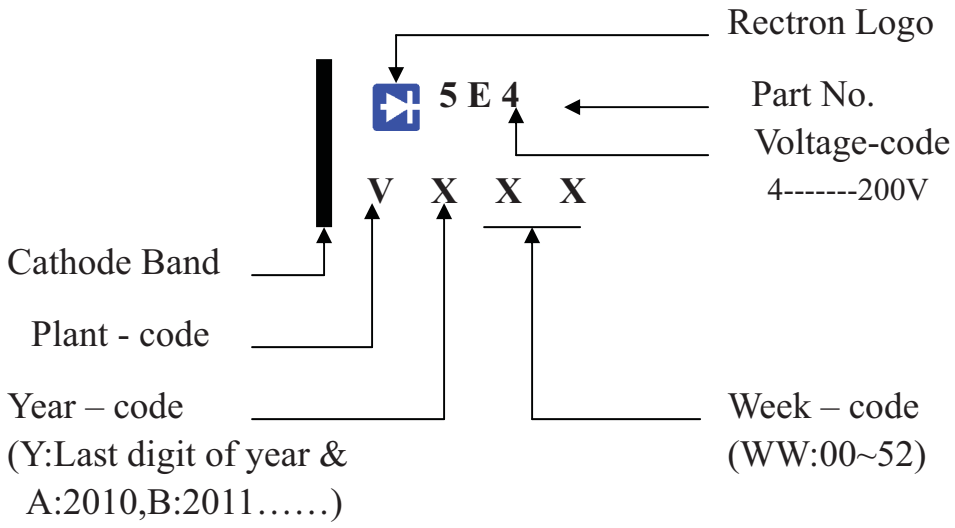
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Attachment information about EFM504

1. Internal Circuit



2. Marking on the body



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMC	-T	500	1,500	---	---	178	390*205*310	12,000	6.65
SMC	-W	3,000	3,000	---	---	330	360*355*360	24,000	11.50

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