

FM801-T7B-Q1-H Thru FM807-T7B-Q1-H

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8.0A General Purpose Rectifiers : 50V ~ 1000V

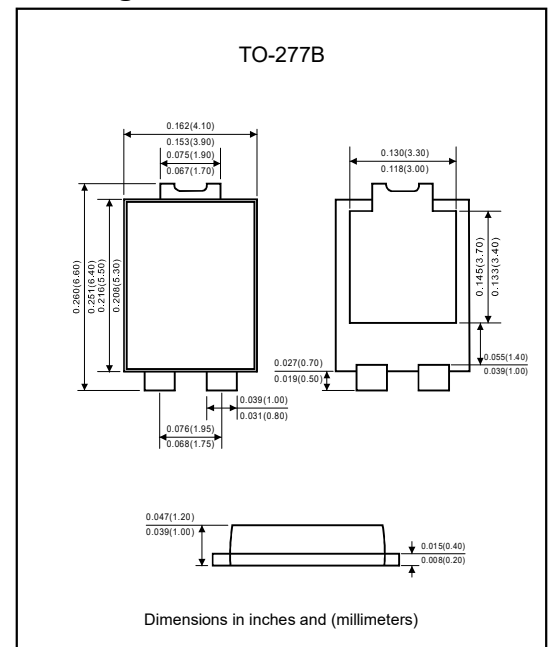
Features

- Idea for printed circuit board
- Glass passivated Junction chip.
- Low reverse leakage.
- High forward surge current capability.
- Qualified to AEC-Q101 standards for high reliability.
- High temperature soldering guaranteed 260°C/10 seconds at terminals.
- Lead free parts meet RoHS requirements.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-227B.
- Terminals :Plated terminals, solder able per MIL-STD-750, Method 2026.
- Polarity : Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 0.092 grams.

Package outline



Maximum ratings and electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	Symbol	FM801-T7B-Q1-H	FM802-T7B-Q1-H	FM803-T7B-Q1-H	FM804-T7B-Q1-H	FM805-T7B-Q1-H	FM806-T7B-Q1-H	FM807-T7B-Q1-H	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{RMS}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_J=100^{\circ}\text{C}$	V_{RMS}	100							A
Peak forward surge current, 8.3ms singlehalf sine-wave super imposed on rated load	I_{FSM}	175.0							A
Maximum instantaneous forward voltage at 8.0A	V_F	1.10							V
Maximum DC reverse current ($T_A=25^{\circ}\text{C}$) at rated DC blocking voltage ($T_A=125^{\circ}\text{C}$)	I_R	5.0 500							μA
Typical junction capacitance (Note1)	C_J	58.0							pF
Typical thermal resistance	$R_{\theta JA}$	60.0							$^{\circ}\text{C/W}$
Operating junction temperature range	T_J	-55 to +150							$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150							$^{\circ}\text{C}$

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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Rating and characteristic curves

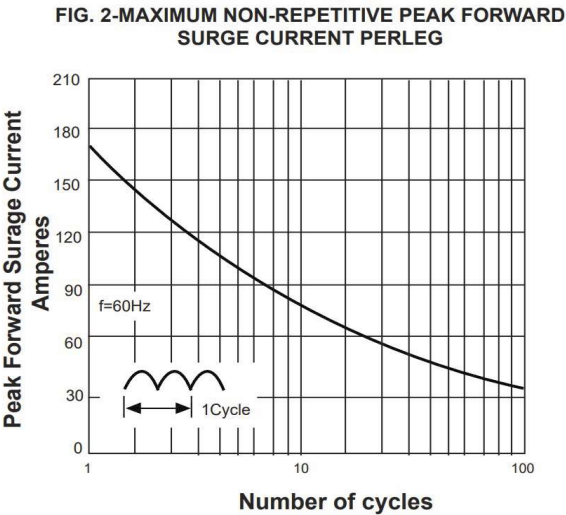
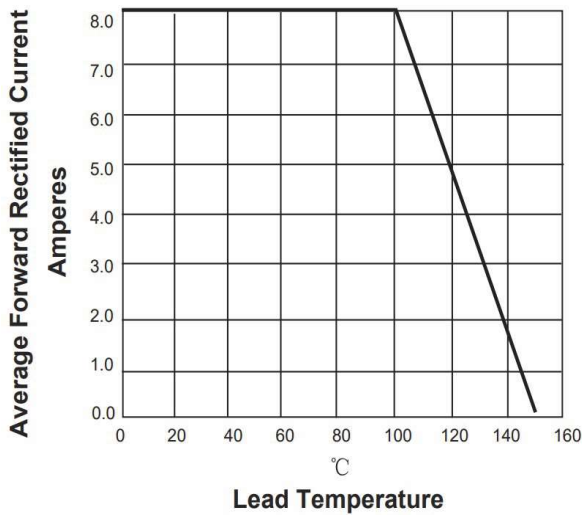


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

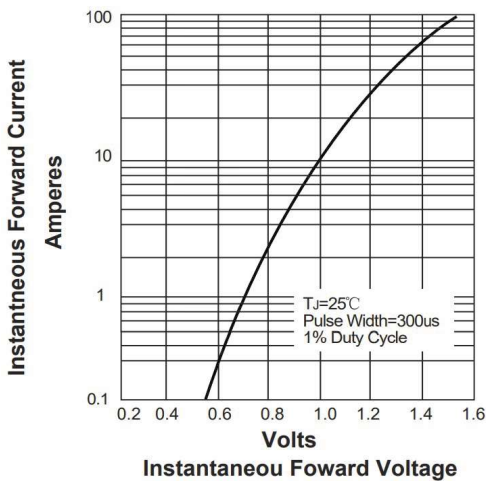
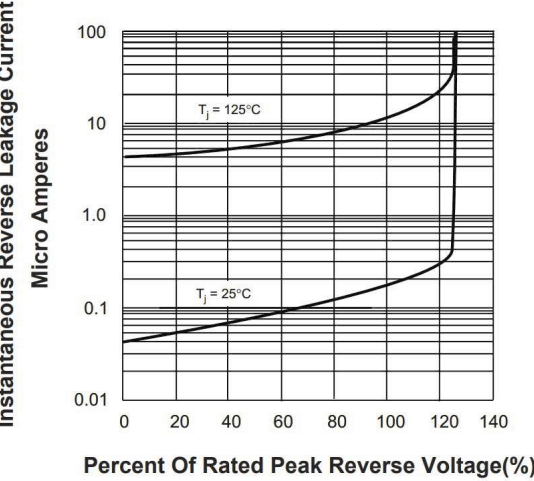
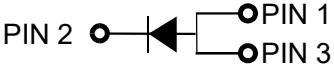


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



FM801-T7B-Q1-H Thru FM807-T7B-Q1-H**Pinning information**

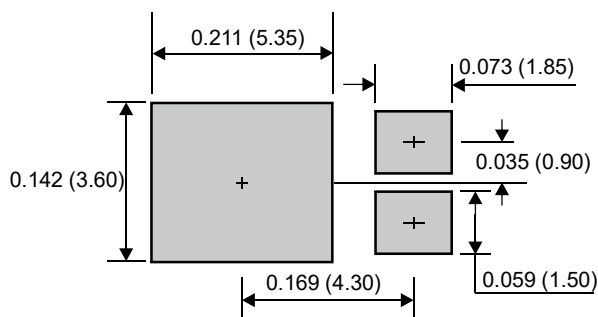
Pin	Simplified outline	Symbol
PIN 1 : Anode PIN 3 : Anode PIN 2 : Cathode		

Marking

Type Number	Marking Code
FM801-T7B-Q1-H	GS8A
FM802-T7B-Q1-H	GS8B
FM803-T7B-Q1-H	GS8D
FM804-T7B-Q1-H	GS8G
FM805-T7B-Q1-H	GS8J
FM806-T7B-Q1-H	GS8K
FM807-T7B-Q1-H	GS8M

Suggested solder pad layout

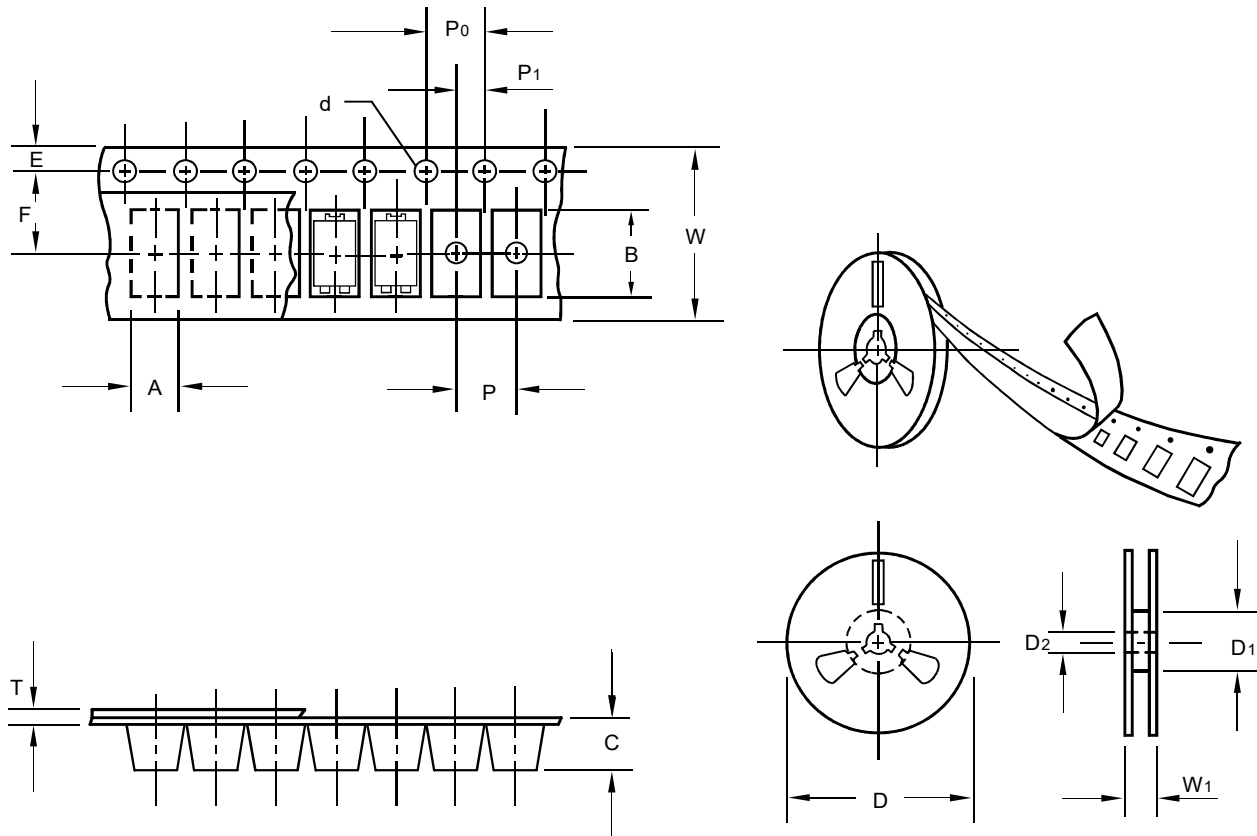
TO-277B



Dimensions in inches and (millimeters)

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Packing information



unit:mm

Item	Symbol	Tolerance	TO-277B
Carrier width	A	0.1	4.40
Carrier length	B	0.1	6.90
Carrier depth	C	0.1	1.30
Sprocket hole	d	0.1	1.55
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D ₁	min	50.00
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	7.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	12.00
Reel width	W ₁	1.0	14.00

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Formosa MS

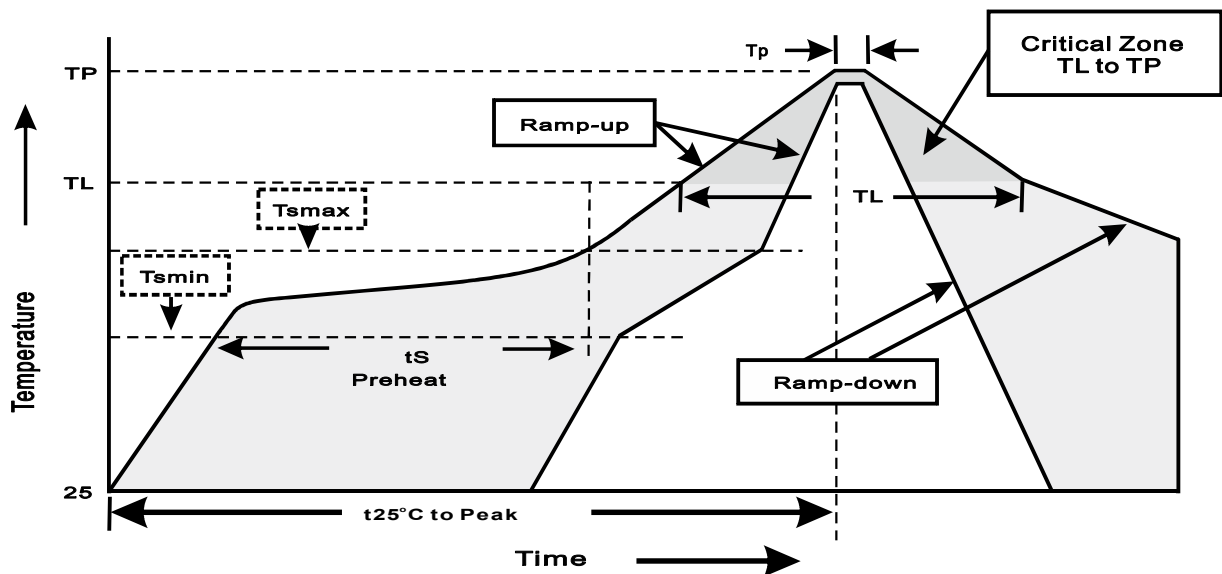
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Reel packing

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)
TO-277B	13"	5,000	8.0	10,000	335*335*38	330	350*330*360	80,000	18.0

Suggested thermal profiles for soldering processes

- Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 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(T _{Smin}) -Temperature Max(T _{Smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{Smax} 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	<3°C/sec
Time 25°C to Peak Temperature	<6minutes