RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

# FM320BF THRU FM3200BF

## *Surface Mount Schottky Barrier Rectifier*

***VOLTAGE RANGE 20 to 200 Volts CURRENT 3.0 Amperes***

### FEATURES

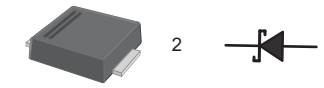
* Metal silicon junction, majority carrier conduction
* For surface mounted applictions
* Low power loss, high efficiency
* High forward surge current capability
* For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### MECHANICAL DATA

* Case:SMBF
* Terminals:Solderable per MIL-STD-750,Method 2026

### PINNING

| PIN | DESCRIPTION |
|---|---|
| 1 | Cathode |
| 2 | Anode |




Simplified outline SMBF and symbol

### 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,derate by20%

**MAXIMUM RATINGS** (At $T_A$ = 25°C unless otherwise noted)

| RATINGS | SYMBOL | FM320BF | FM340BF | FM360BF | FM380BF | FM3100BF | FM3120BF | FM3150BF | FM3200BF | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 40 | 60 | 80 | 100 | 120 | 150 | 200 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 28 | 42 | 56 | 70 | 84 | 105 | 140 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 40 | 60 | 80 | 100 | 120 | 150 | 200 | Volts |
| Maximum Average Forward Rectified Current | $I_O$ | 3.0 | | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 80 | | | | | | | | Amps |
| Typical Current Squared Time | $I^2T$ | 26.56 | | | | | | | | $A^2S$ |
| Typical Thermaesistance (Note 2) | $R_{\theta JL}$ | 37 | | | | | | | | °C/W |
| | $R_{\theta JA}$ | 65 | | | | | | | | °C/W |
| Typical Junction Capacitance (Note 1) | $C_J$ | 450 | | 400 | | | | | | pF |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to + 150 | | | | | | | | °C |

**ELECTRICAL CHARACTERISTICS** (At $T_A$ = 25°C unless ot herwise noted)

| CHARACTERISTICS | | SYMBOL | FM320BF | FM340BF | FM360BF | FM380BF | FM3100BF | FM3120BF | FM3150BF | FM3200BF | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage at 3.0A DC | | $V_F$ | 0.55 | | 0.70 | | 0.85 | | 0.95 | | Volts |
| Maximum Average Reverse Current | @$T_A$ = 25°C | $I_R$ | 0.5 | | 0.3 | | | | | | mAmps |
| at Rated DC Blocking Voltage | @$T_A$ = 100°C | | 10 | | 5 | | | | | | mAmps |

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Thermal resistance junction to terminal, 5X5mm² copper pads to each terminal.

2019-12/01
REV:A

# RATING AND CHARACTERISTICS CURVES ( FM320BF THRU FM3200BF )

**Fig.1 Forward Current Derating Curve**

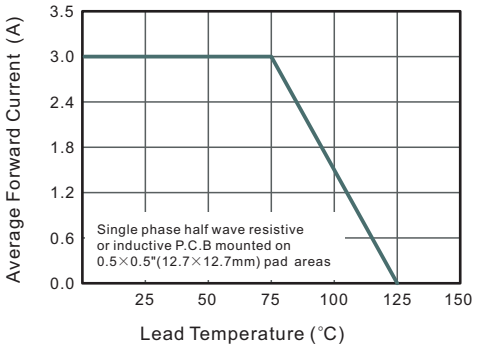



**Fig.2 Typical Reverse Characteristics**

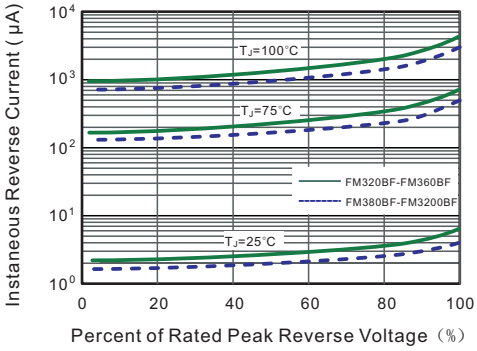



**Fig.3 Typical Forward Characteristic**

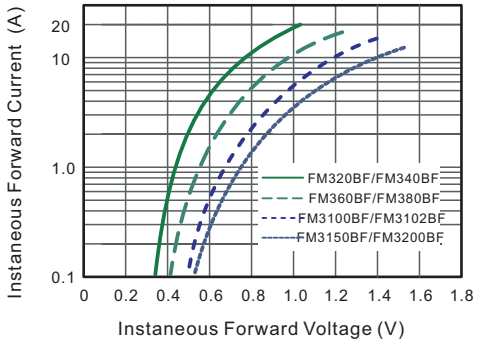



**Fig.4 Typical Junction Capacitance**

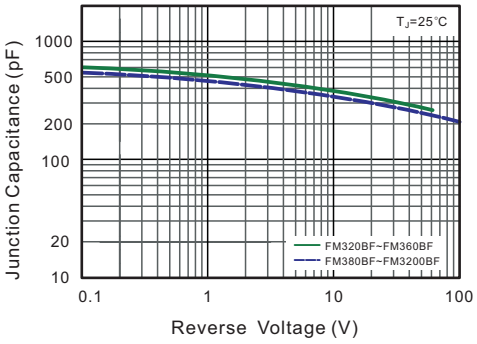



**Fig.5 Maximum Non-Repetitive Peak Forward Surage Current**

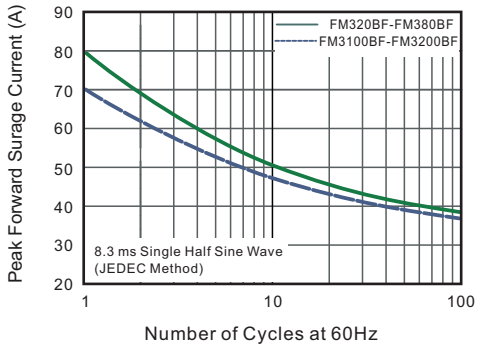
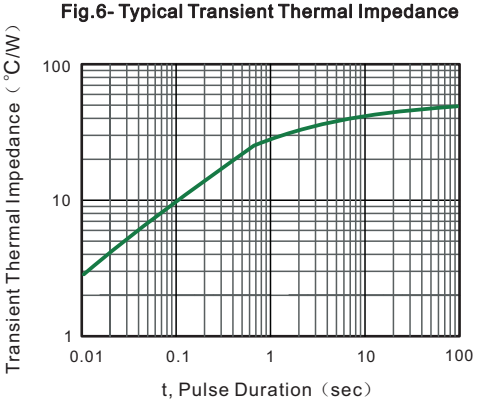
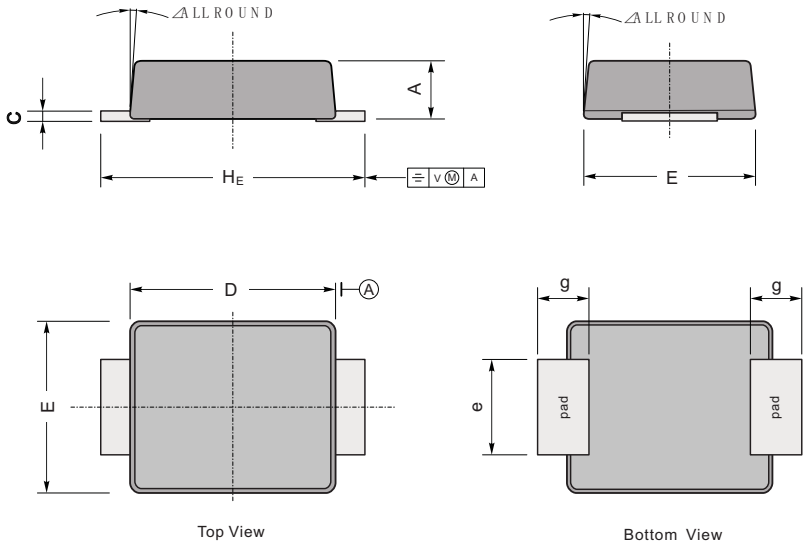



**Fig.6- Typical Transient Thermal Impedance**



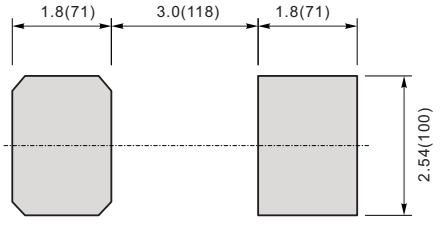
# PACKAGE OUTLINE

**Plastic surface mounted package; 2 leads**




| UNIT | | A | C | D | E | $H_E$ | e | g | ∠ |
|---|---|---|---|---|---|---|---|---|---|
| mm | max | 1.3 | 0.26 | 4.4 | 3.7 | 5.5 | 2.2 | 1.0 | 9° |
| | min | 1.1 | 0.18 | 4.2 | 3.5 | 5.1 | 1.9 | | |
| mil | max | 51 | 10 | 173 | 146 | 216 | 86 | 40 | |
| | min | 43 | 7 | 165 | 138 | 200 | 75 | | |

## The recommended mounting pad size




Unit: mm(mil)

## Marking

| Type number | Marking code |
|---|---|
| FM320BF | S32B |
| FM340BF | S34B |
| FM360BF | S36B |
| FM380BF | S38B |
| FM3100BF | S310B |
| FM3120BF | S312B |
| FM3150BF | S315B |
| FM3200BF | S320B |

# 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) |
|---|---|---|---|---|---|---|---|---|---|
| SMBF | -T | 5000 | 10,000 | --- | --- | 330 | 350*350*230 | 50,000 | 8.20 |

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