FR3A THRU FR3K

FAST SWITCHING SURFACE MOUNT RECTIFIER VOLTAGE - 50 to 800 Volts CURRENT - 3.0 Amperes

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory

Flammability Classification 94V-O

- Glass passivated junction
- High temperature soldering:

260 /10 seconds at terminals

Fast recovery times for high efficiency

MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic

Terminals: Solder plated, solderable per MIL-STD-750,

Method 2026

Polarity: Indicated by cathode band

Standard packaging: 16mm tape (EIA-481)

Weight: 0.007 ounce, 0.21 gram

.108(2.75) .124(3.15) .220(5.59) .245(6.22) .03(0.60) .006(.152) .012(.305)

SMC/DO-214AB

Dimensions in inches and (millimeters)

.008(.203)

.305(7.75)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

.060(1.52)

Ratings at 25 ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

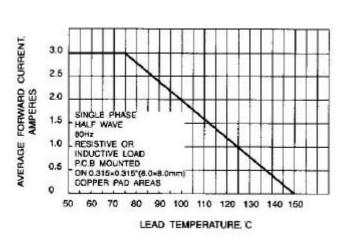
For capacitive load, derate current by 20%.

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|---|-------------------|-------------|------|------|------|------|------|-------|
| | SYMBOLS | FR3A | FR3B | FR3D | FR3G | FR3J | FR3K | UNITS |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | Volts |
| Maximum Average Forward Rectified Current, | I _(AV) | 3.0 | | | | | | Amps |
| at T _L =75 | , , | | | | | | | |
| Peak Forward Surge Current 8.3ms single half sine- | I _{FSM} | 100 | | | | | | Amps |
| wave superimposed on rated load(JEDEC method) | | | | | | | | |
| Maximum Instantaneous Forward Voltage at 3.0A | V_{F} | 1.3 | | | | | | Volts |
| Maximum DC Reverse Current T _A =25 | I_R | 10.0 | | | | | | Α |
| At Rated DC Blocking Voltage T _A =125 | | 300 | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | T_RR | 150 | | | 250 | 500 | S | |
| Typical Junction capacitance (Note 2) | CJ | 60.0 | | | | | | ₽F |
| Maximum Thermal Resistance (Note 3) | R JL | 15 | | | | | /W | |
| | R JA | 50 | | | | | | |
| Operating and Storage Temperature Range | T_J, T_{STG} | -50 to +150 | | | | | | |

NOTES:

- 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, Irr=0.25A
- 2. Measured at 1 MHz and Applied reverse voltage of 4.0 volts
- 3. 8.0mm² (.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES FR3A THRU FR3K



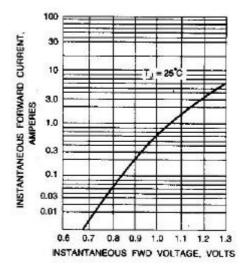


Fig. 1-FORWARD CURRENT DERATING CURVE Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

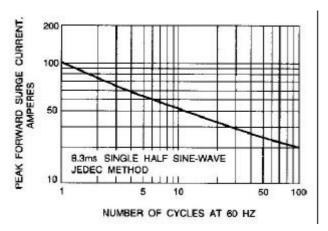


Fig. 3-MAXIMUM NON-REPETITIVE SURGE

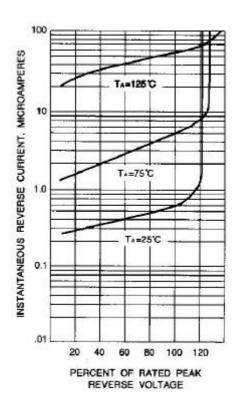


Fig. 4-TYPICAL REVERSE CHARACTERISTICS

CURRENT

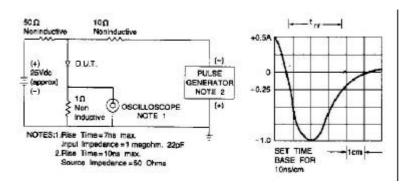


Fig. 5-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM