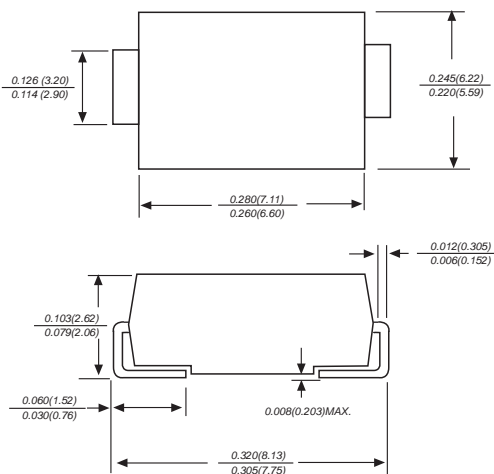


FR5A THRU FR5M

SURFACE MOUNT FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 5.0 Amperes

DO-214AB



Dimensions in inches and (millimeters)

FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction

MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic body over passivated chip

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.007 ounce, 0.25grams

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%.

	SYMBOLS	FR5A	FR5B	FR5D	FR5G	FR5J	FR5K	FR5M	UNITS
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_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=75^\circ\text{C}$	$I_{(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150.0							A
Maximum instantaneous forward voltage at 5.0A	V_F	1.3							V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 100.0							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	150				250	500		ns
Typical junction capacitance (NOTE 2)	C_J	78.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150							$^\circ\text{C}$

Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$

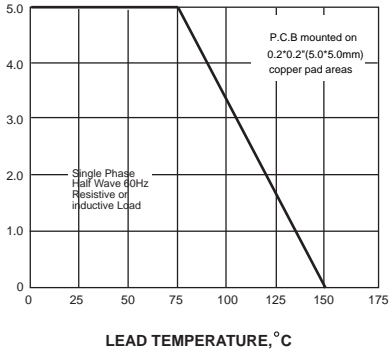
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES FR5A THRU FR5M

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

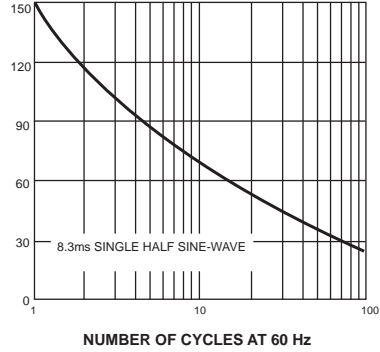
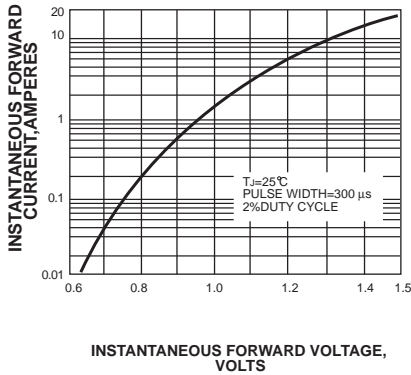
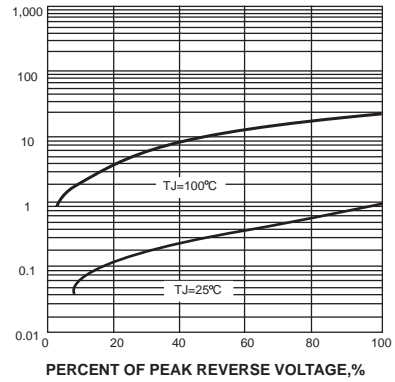


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



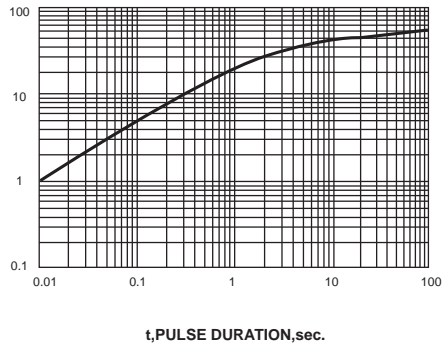
INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 5-TYPICAL TRANSIENT THERMAL IMPEDANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

