

Fast Recovery Rectifiers

Reverse Voltage - 100 to 1000 V

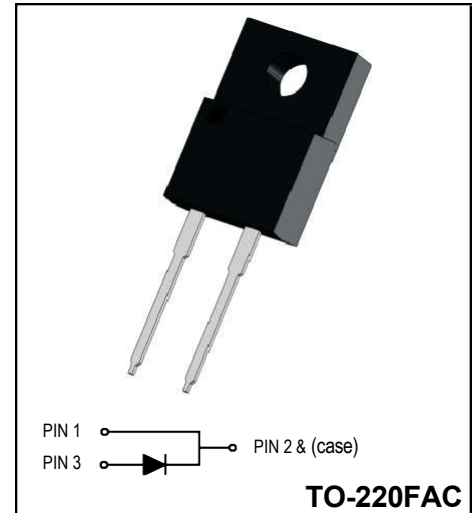
Forward Current - 10A

FEATURES

- ◆ Glass passivated chip junctions
- ◆ Low reverse current operation
- ◆ High Junction Temperature
- ◆ Fast recovery time for switching
- ◆ High Forward Surge Capability
- ◆ Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

- ◆ Circuit figure: Single positive
- ◆ Leads: Solderable per mil-std-202, Method 208
- ◆ Polarity: as marked
- ◆ Mounting torque: 5 in-lbs maximum
- ◆ Terminals: Puretin plated
- ◆ Weight: TO-220FAC 1.65 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C)

RATINGS	SYMBOL	FR 1010DAF	FR 1020DAF	FR 1040DAF	FR 1060DAF	FR 1080DAF	FR 10100DAF	UNIT
Maximum repetitive reverse voltage	V_{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	100	200	400	600	800	1000	V
Maximum average forward current	I_{AV}	10						A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	120						A
Typical thermal resistance per diode (Note 1)	$R_{\theta-JC}$	4.0						°C/W
Operating junction temperature range	T_J	-55 to +150						°C
Storage temperature range	T_{STG}	-55 to +150						°C
CHARACTERISTICS	SYMBOL	FR 1010DAF	FR 1020DAF	FR 1040DAF	FR 1060DAF	FR 1080DAF	FR 10100DAF	UNIT
Maximum forward voltage per leg at 10A	V_F	1.30						V
Maximum average reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	10				250		μA
Maximum reverse recovery time (Note 2)	T_{RR}	150			250	500		nS

Notes: 1. Thermal resistance from junction to case.
2. Test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

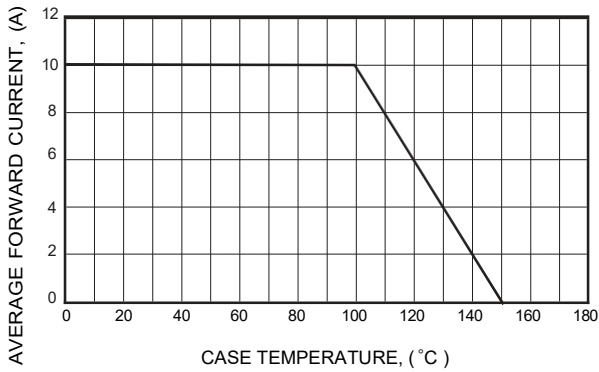


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

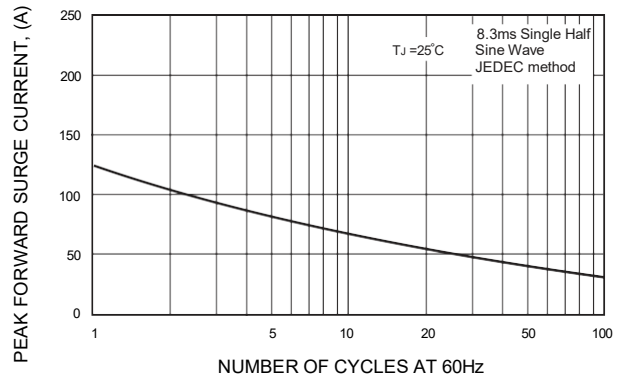


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

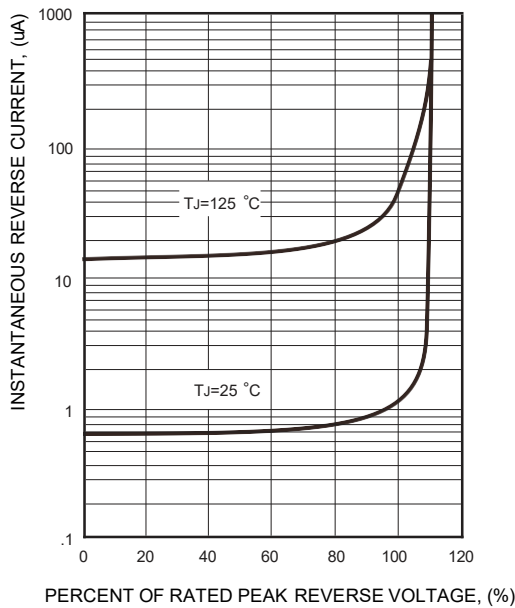


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

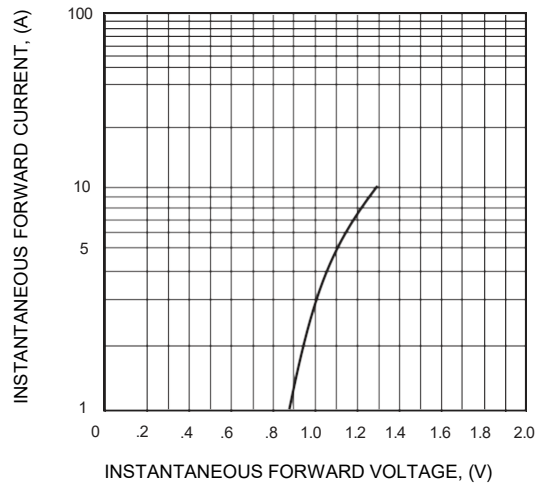
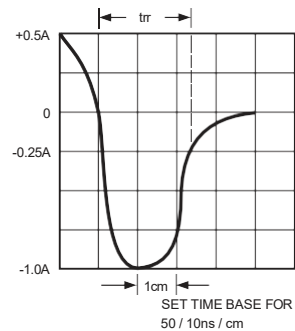
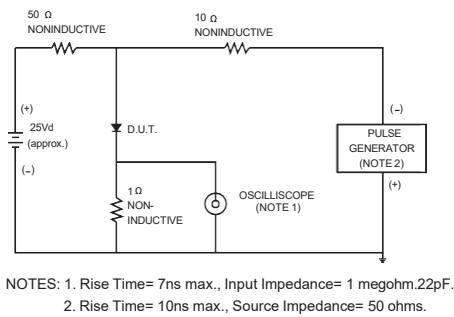


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



Package outline Dimensions in millimeters

