

Fast Recovery Rectifiers

Reverse Voltage - 100 to 1000 V

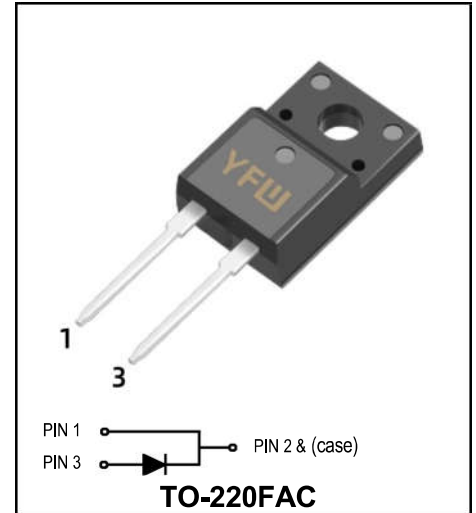
Forward Current - 10A

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



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

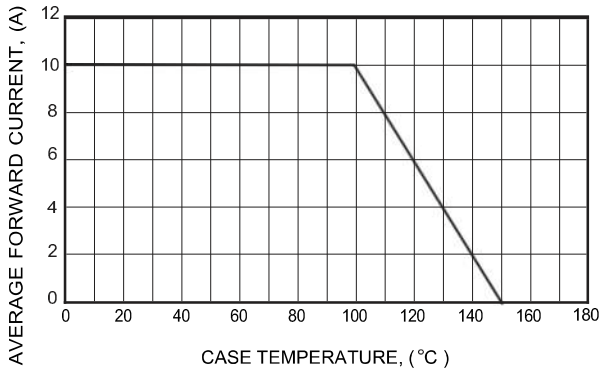


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

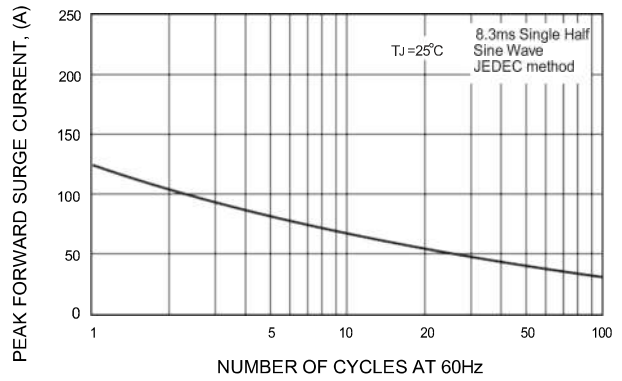


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

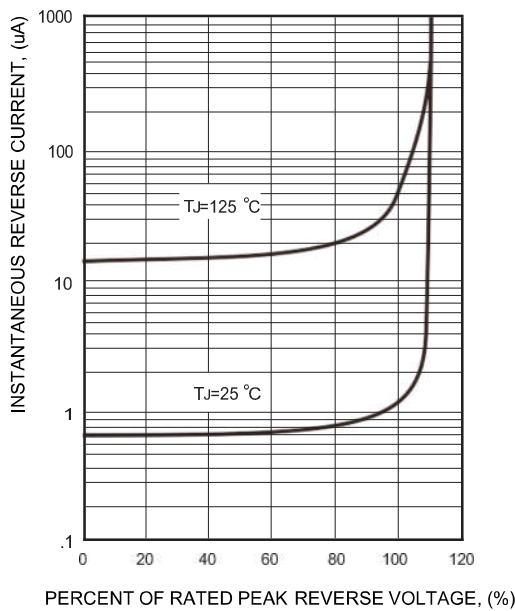


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

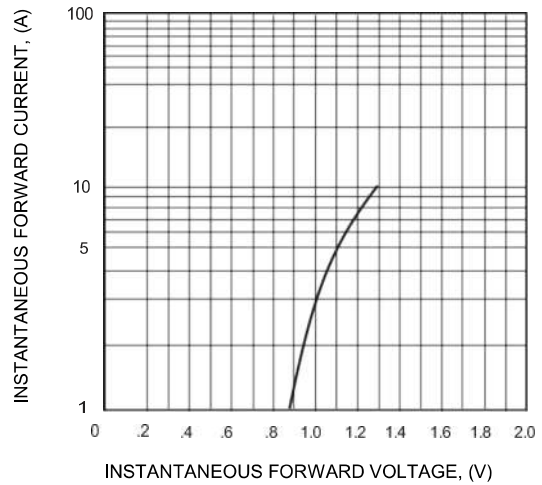
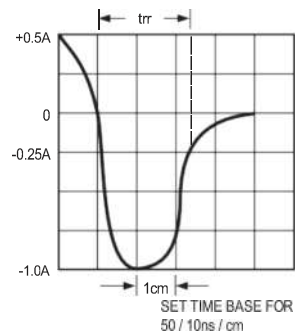
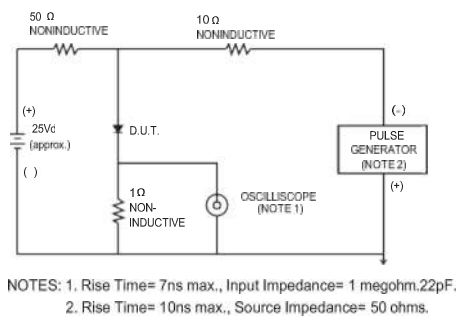
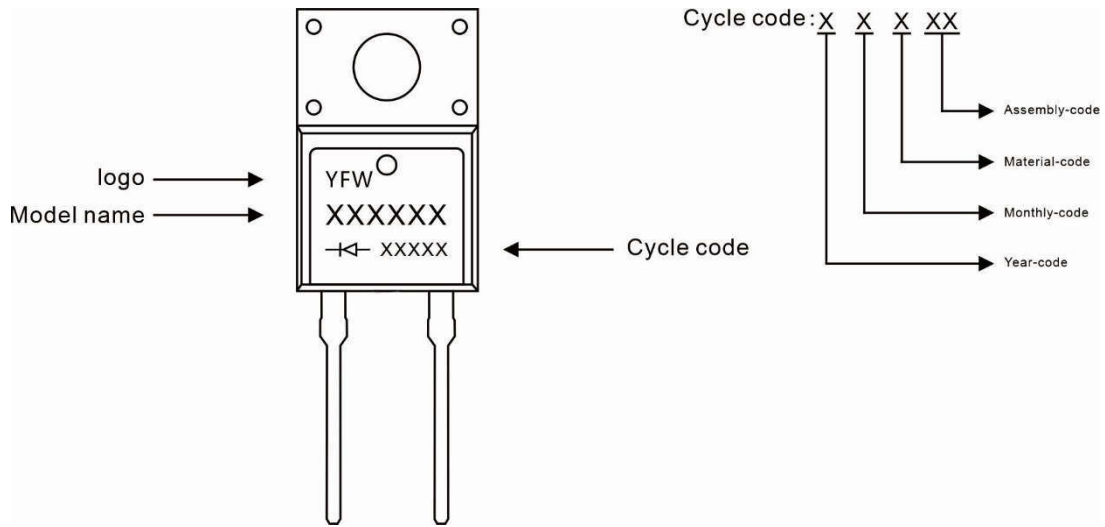


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
FRXXXXXDAF	TO-220FAC	0.06oz(1.7g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220AC

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.66	2.86	0.105	0.113
b	0.75	0.85	0.030	0.033
b1	1.24	1.44	0.049	0.057
c	0.40	0.60	0.016	0.024
D	10.00	10.32	0.394	0.406
E	15.75	16.05	0.620	0.632
e	4.88	5.28	0.192	0.208
F	3.10	3.5	0.122	0.138
L	12.90	13.50	0.508	0.531
L1	2.90	3.30	0.114	0.130
Φ	3.10	3.30	0.122	0.130

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