

Fast Recovery Recers

Reverse Voltage - 400 to 1600 V

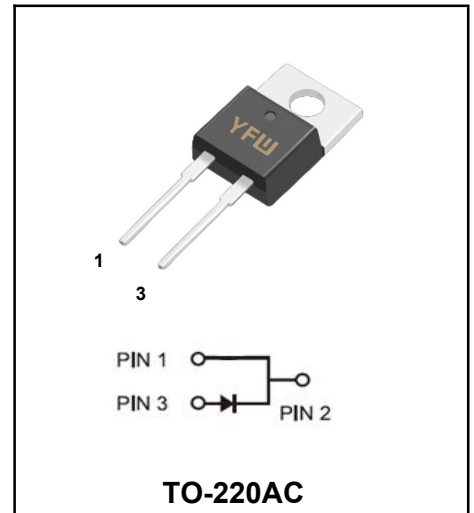
Forward Current - 15A

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 RoHS2011/65/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: Pure tin plated



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

ATINGS	SYMBOL	FR1540DA	FR1560DA	FR1580DA	FR15100DA	FR15120DA	FR15140DA	FR15160DA	UNIT
Maximum repetitive reverse voltage	V_{RRM}	400	600	800	1000	1200	1400	1600	V
Maximum RMS voltage	V_{RMS}	280	420	560	700	840	980	1120	V
Maximum DC blocking voltage	V_{DC}	400	600	800	1000	1200	1400	1600	V
Maximum average forward current	I_{AV}	15							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200							A
Typical thermal resistance per diode (Note 1)	$R_{\theta JC}$	2.5							°C/W
Operating junction temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							°C

CHARACTERISTICS

Maximum forward voltage per leg at 15A	V_F	1.2							V
Maximum average reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	5 250							μA
Maximum reverse recovery time (Note 2)	T_{RR}	150			250		350		nS

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

Ratings And Characteristic Curves

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

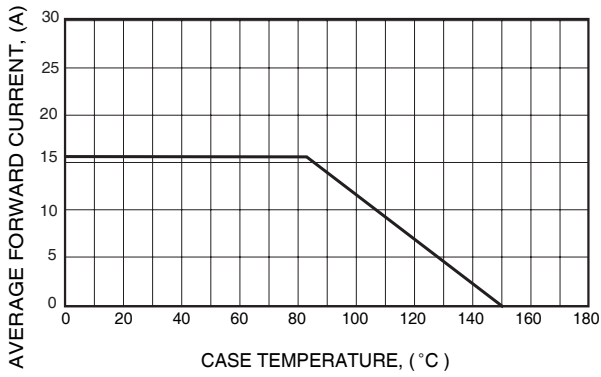


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

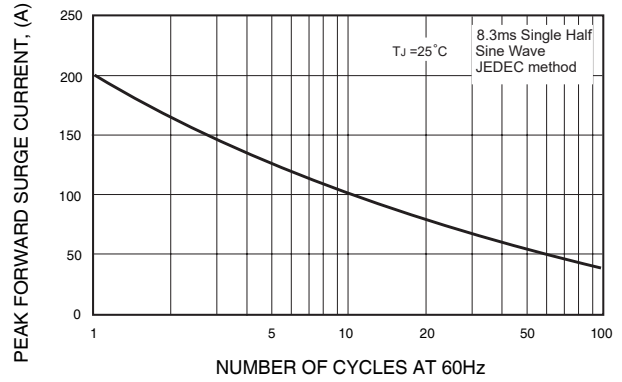


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

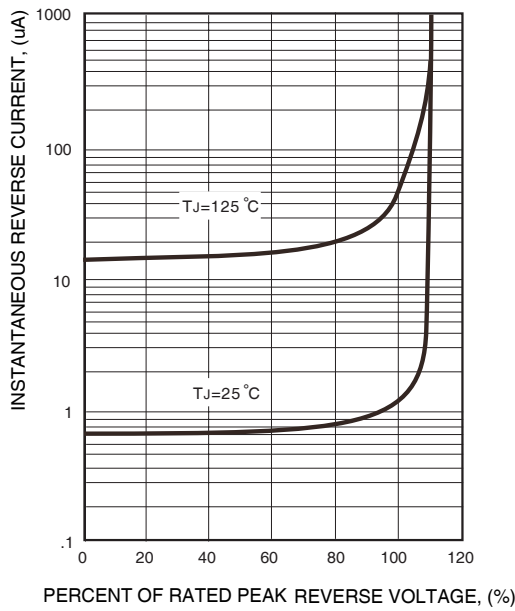
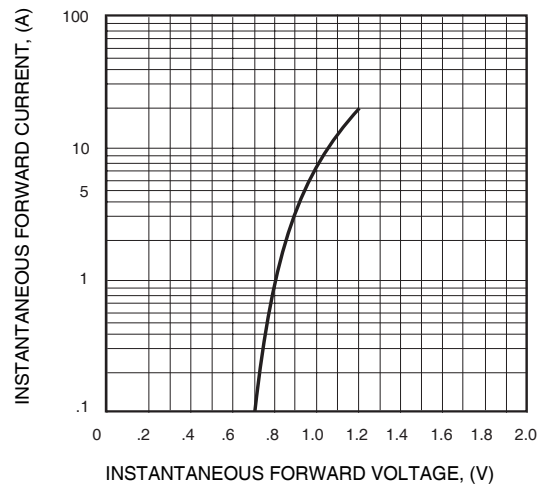
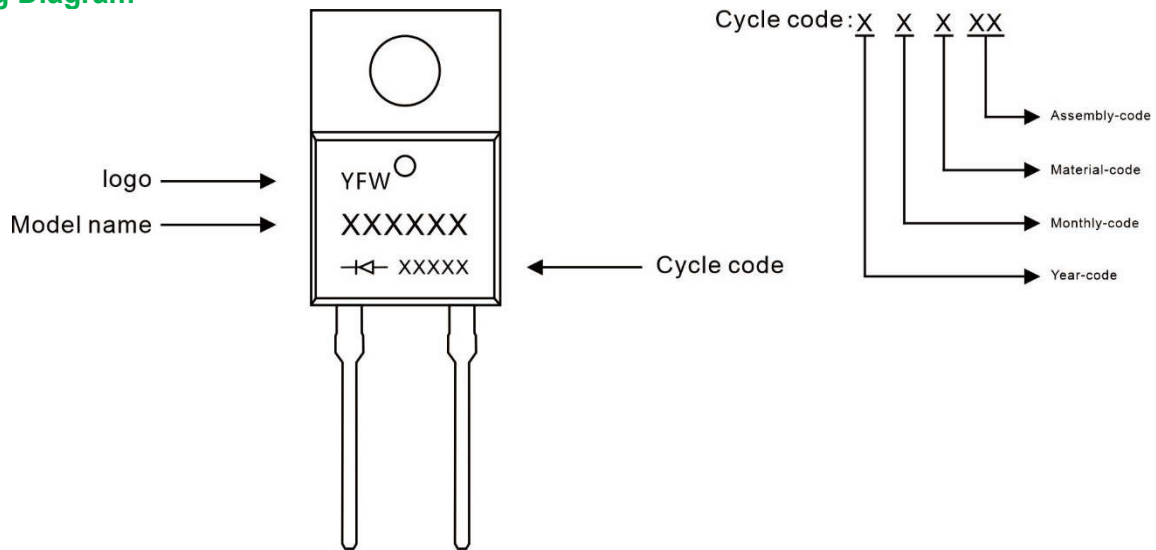


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
FRXXXXDA	TO-220AC	0.067oz(1.9g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220AC

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.34	4.67	0.171	0.184
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

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