

ULTRAFAST RECOVERY RECTIFIERS

Reverse Voltage - 1200 V

Forward Current - 20 A

FEATURES

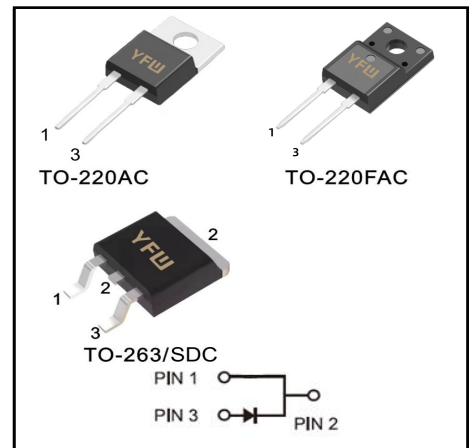
- ◆High speed switching capability
- ◆High current capability
- ◆High forward surge capability
- ◆Low power losses, High efficiency
- ◆For use in low voltage, high frequency inverters

MECHANICAL DATA

- ◆Case: Molded plastic
- ◆Polarity: As marked
- ◆Mounting Position: Any
- ◆Molded Plastic: UL Flammability Classification Rating 94V-0
- ◆Lead free in compliance with EU RoHS 2011/65/EU directive
- ◆Solder bath temperature 275°C maximum, 10s per JESD 22-B106

Primary Characteristic

I_O	20A
V_{RRM}	1200V
I_{FSM}	230A
V_F	1.73V
T_{rr}	48ns
T_J Max	150°C



Maximum Ratings at Ta=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1200	V
Working Peak Reverse Voltage	V_{RMS}	840	V
Maximum DC Blocking Voltage	V_{DC}	1200	V
Maximum Average Forward Rectified Current	I_O	20	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	230	A
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-40 to +150	°C
Typical Thermal Resistance (Note1) TO-220AC, TO-263/TO-220FAC	R_{θJC}	2/4	°C/W

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

Electrical Characteristics unless otherwise specified

Characteristics		Symbols	Value		Unit
Forward Voltage Drop(Note2)		V_F	Typ	Max	V
at I _F =5A	TA=25°C		1.38	-	
	TA=125°C		1.12	-	
at I _F =15A	TA=25°C		1.79	-	
	TA=125°C		1.57	-	
at I _F =20A	TA=25°C		1.93	2.2	
	TA=125°C		1.73	-	
Maximum Reverse Current at V _R =1200V	TA=25°C	I_R	0.2	10	μA
	TA=125°C		5	-	μA
Maximum Reverse Recovery Time at I _F =0.5A, I _R =1A,		T_{rr}	48	75	ns

Note2: Pulse test: 300 μs pulse width, 1 % duty cycle

RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

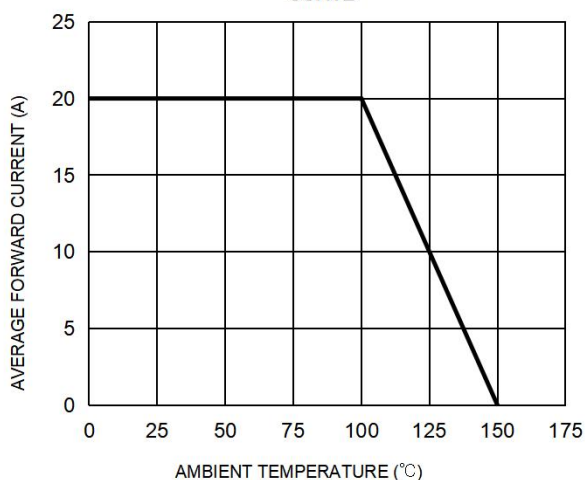


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

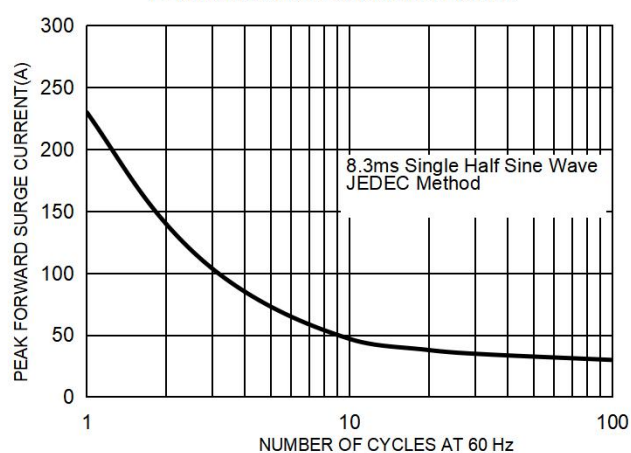


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

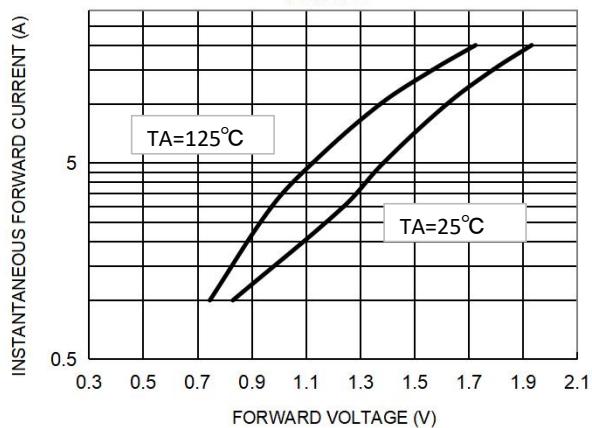
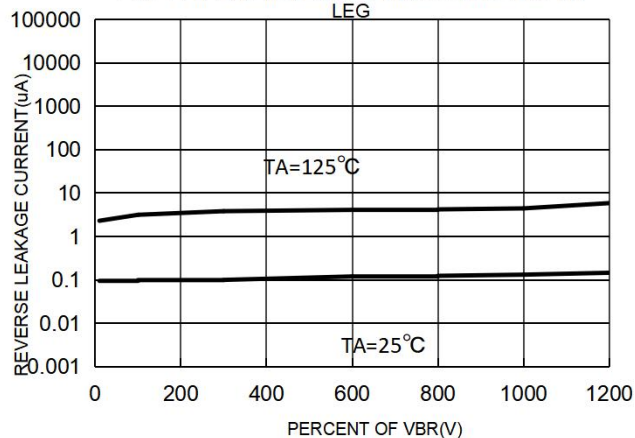
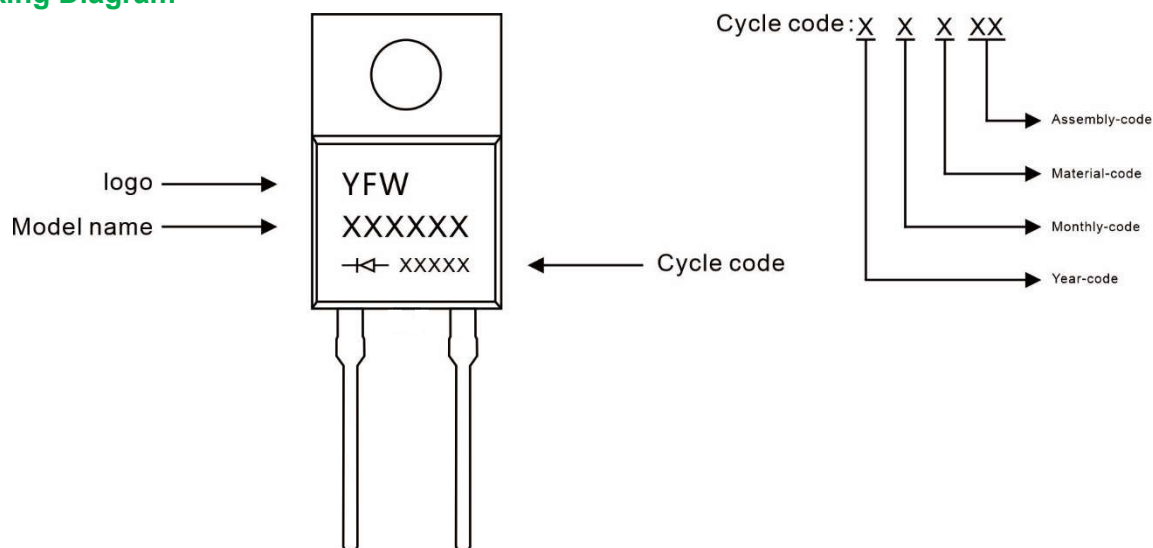


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking Diagram



Ordering information

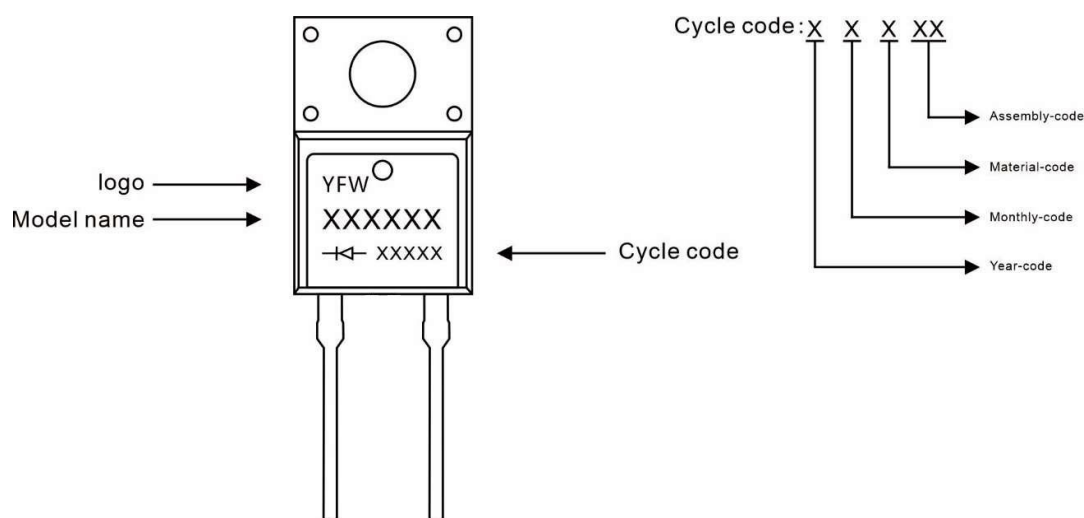
Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR20120AC	TO-220AC	0.067oz(1.9g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

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	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

Marking Diagram



Ordering information

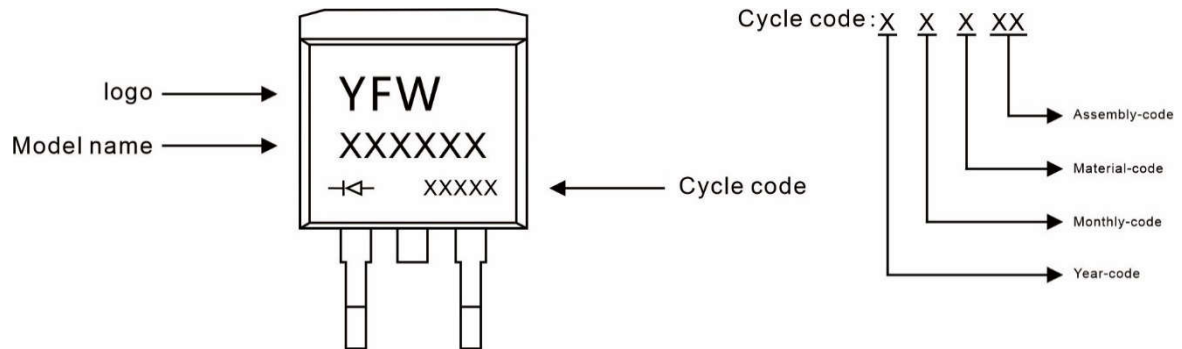
Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR20120FAC	TO-220FAC	0.06oz(1.7g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220FAC

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	9.95	10.25	0.392	0.404
B	2.95	3.25	0.116	0.128
C	1.25	1.45	0.049	0.057
E	12.95	13.25	0.51	0.52
F	0.40	0.60	0.016	0.024
G	1.30	1.45	0.051	0.057
H	TYP2.54		TYP 0.1	
I	TYP5.08		TYP 0.2	
J	4.60	4.75	0.181	0.187
K	2.45	2.65	0.097	0.104
L	6.5	6.8	0.256	0.268
M	15.4	16.0	0.606	0.630
N	2.75	3.05	0.108	0.120
O	0.45	0.55	0.018	0.022
Q	0.76	0.84	0.030	0.033

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR20120SDC	TO-263	0.04oz(1.16g)	800pcs/reel	1600pcs/box 8000pcs/Carton

Package Dimensions

TO-263

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
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
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071

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