

## ULTRAFST RECOVERY RECTIFIERS

**Reverse Voltage - 200 V**

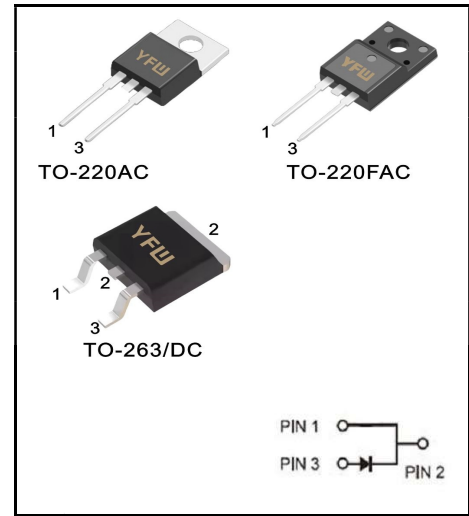
**Forward Current - 20 A**

### 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
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- ◆Case: TO-220AC TO-220FAC TO-263/DC
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106



### Primary Characteristic

<b>I<sub>o</sub></b>	<b>20A</b>
<b>V<sub>RRM</sub></b>	<b>200V</b>
<b>I<sub>FSM</sub></b>	<b>200A</b>
<b>V<sub>F</sub></b>	<b>1.05V</b>
<b>T<sub>J</sub> Max</b>	<b>175°C</b>

### Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	<b>V<sub>RRM</sub></b>	200	<b>V</b>
Maximum RMS voltage	<b>V<sub>RMS</sub></b>	140	<b>V</b>
Maximum DC Blocking Voltage	<b>V<sub>DC</sub></b>	200	<b>V</b>
Maximum Average Forward Rectified Current	<b>I<sub>o</sub></b>	20	<b>A</b>
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	<b>I<sub>FSM</sub></b>	200	<b>A</b>
Operating Temperature Range	<b>T<sub>J</sub></b>	175	<b>°C</b>
Storage Temperature Range	<b>T<sub>STG</sub></b>	-55 ~ +175	<b>°C</b>
Typical Thermal Resistance (Note1) TO-220AC TO-263/DC TO-220FAC	<b>R<sub>θJA</sub>/ R<sub>θJC</sub></b>	2/4	<b>°C/W</b>

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

### Electrical Characteristics (Per Leg) unless otherwise specified

Characteristics	Symbols	Value		Units
		Typ	Max	
Forward Voltage Drop(Note2)	<b>V<sub>F</sub></b>	0.81	-	<b>V</b>
at IF=5A				
		TA=125°C		
at IF=10A		TA=25°C		
		TA=125°C		
at IF=20A		TA=25°C	0.98	
	TA=125°C	0.83	-	
Maximum Reverse Current at V <sub>R</sub> =200V	<b>I<sub>R</sub></b>	2	-	<b>uA</b>
		-	2	<b>uA</b>
Maximum Reverse Recovery Time at IF=0.5A, IR=1A, IRR=0.25A	<b>T<sub>RR</sub></b>	19	-	<b>nS</b>

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

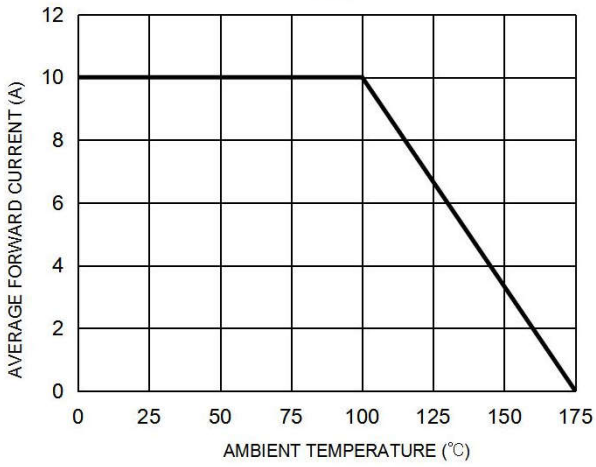


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

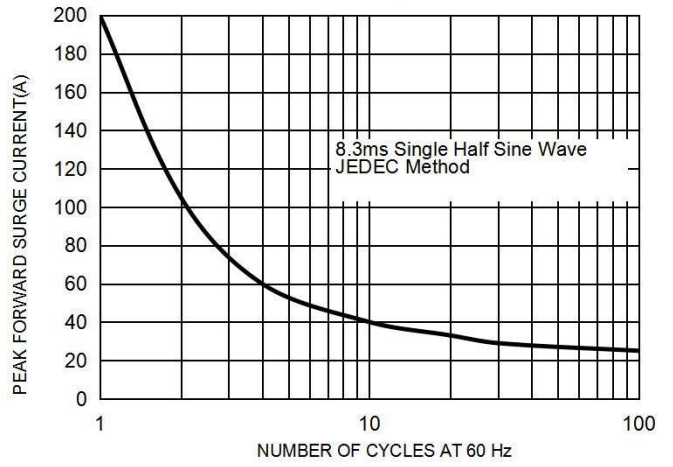


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

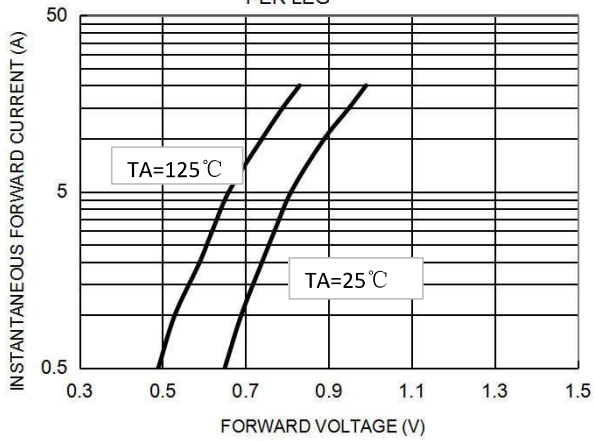
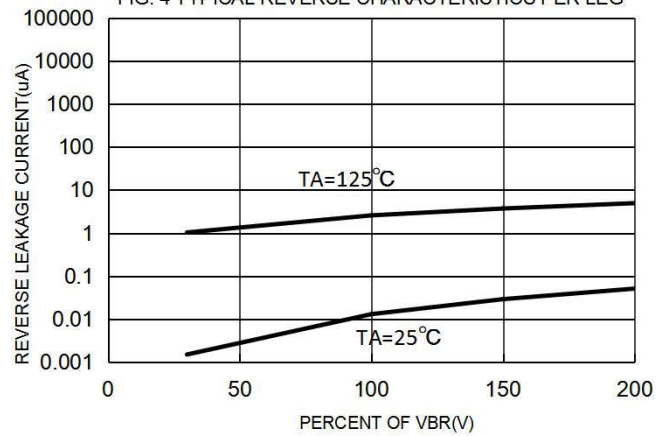
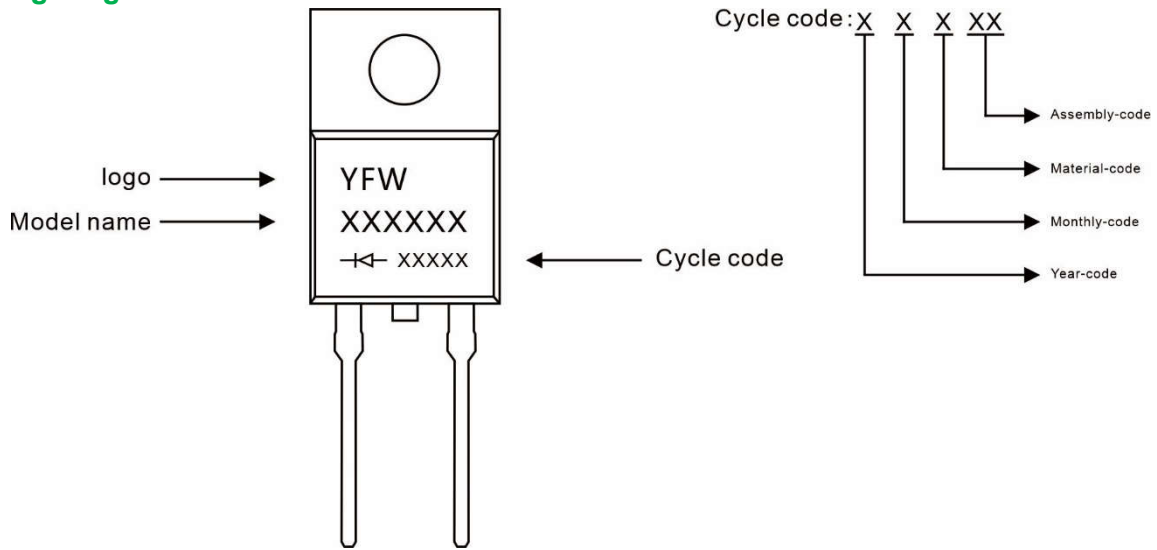


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking Diagram**



**Ordering information**

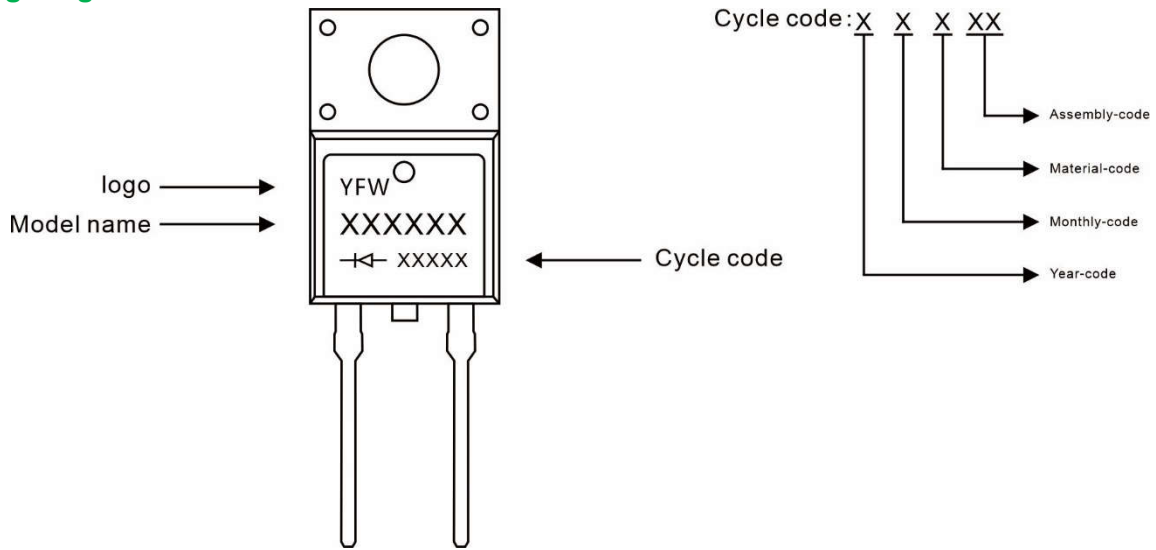
Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR2020AC	TO-220AC	0.067oz(1.9g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

**Package Dimensions**

**TO-220AC**

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	10.15	10.35	0.400	0.407
B	2.65	2.95	0.104	0.116
C	3.70	3.90	0.146	0.154
D	28.5	29.5	1.12	1.16
E	1.3	1.45	0.051	0.057
F	0.8	1.1	0.031	0.043
G	2.9	3.3	0.114	0.130
H	15.0	16.0	0.591	0.630
I	0.38	0.42	0.015	0.017
J	4.45	4.55	0.175	0.179
K	1.25	1.35	0.049	0.053
L	6.35	6.55	0.250	0.258
M	Typ5.08		Typ0.2	
N	Typ2.54		Typ0.1	
O	0.76	0.84	0.030	0.033
P	3.1	3.3	0.122	0.130

**Marking Diagram**



**Ordering information**

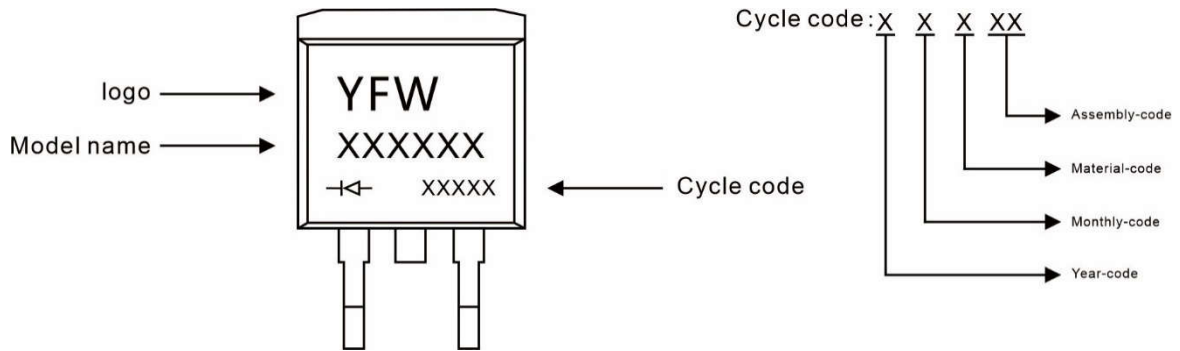
Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR2020FAC	TO-220FAC	0.06oz(1.7g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

**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
P	0.6	0.8	0.024	0.032
Q	0.76	0.84	0.030	0.033

**Marking Diagram**



**Ordering information**

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR2020DC	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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