

ULTRAFST RECOVERY RECTIFIERS

Reverse Voltage - 200 V

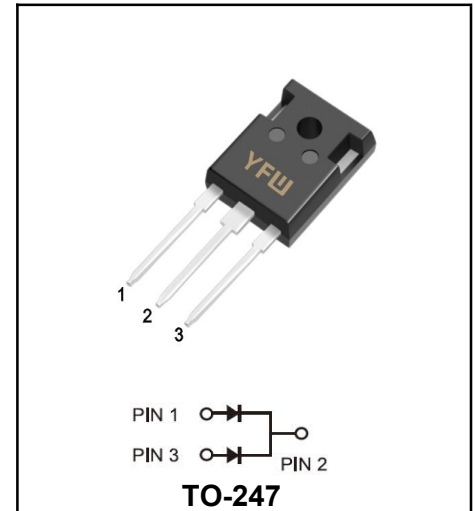
Forward Current - 80 A

FEATURES

- ◆ High frequency operation
- ◆ High surge forward current capability
- ◆ High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- ◆ Guard ring for enhanced ruggedness and long term reliability
- ◆ Solder dip 275 °C max. 7s, per JESD 22-B106

MECHANICAL DATA

- ◆ Case : TO-247/PT
- ◆ RoHS compliant
- ◆ Case Material: “Green” molding compound, UL flammability classification 94V-0, “Halogen-free”.



Primary Characteristic

$I_{F(AV)}$	2*40A
V_{RRM}	200V
I_{FSM}	800A
V_F	0.85V
$T_J \text{ Max}$	150°C

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

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS voltage	V_{RMS}	140	V
Maximum DC Blocking Voltage	V_{DC}	200	V
Maximum Average Forward Rectified Current at $T_c=120^\circ\text{C}$	Per Leg	40	A
	Total	80	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	I_{FSM}	800	A
Operating Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C
Typical thermal resistance	$R_{\theta JC}$	0.8	°C/W

Electrical Characteristics (Per Leg) unless otherwise specified

Characteristics		Symbols	Value		Units
			Typ	Max	
Instantaneous forward voltage per leg	$I_F=40A, T_J=25^\circ\text{C}$	V_F	-	1.2	V
	$I_F=40A, T_J=150^\circ\text{C}$	V_F	0.85	-	
Maximum DC reverse current at rated DC blocking voltage	$V_R=200V, T_J=25^\circ\text{C}$	I_R	-	10	uA
	$V_R=200V, T_J=150^\circ\text{C}$		36	500	uA
Maximum Reverse Recovery Time	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	T_{RR}	38	50	nS
Maximum Reverse Recovery Current	$I_F=40A, V_R=100V, DI/dt=200A/us$	I_{RRM}	6.2	-	A
Reverse Recovery Charge	$I_F=40A, V_R=100V, DI/dt=200A/us$	Q_{RR}	198	-	nc

Ratings And Characteristic Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

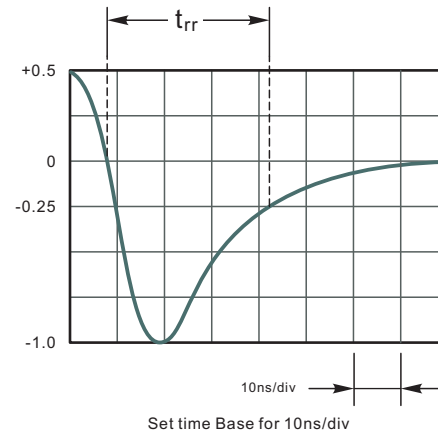
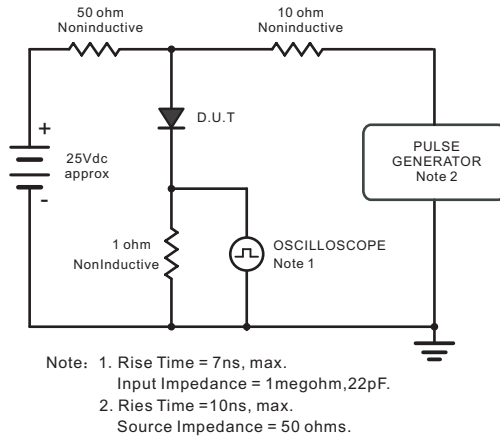


Fig.2 Forward Current Derating Curve

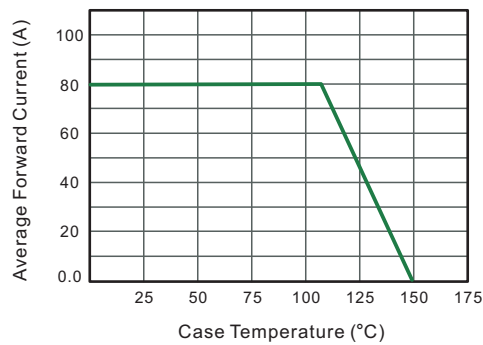


Fig.3 Typical Instantaneous Reverse Characteristics

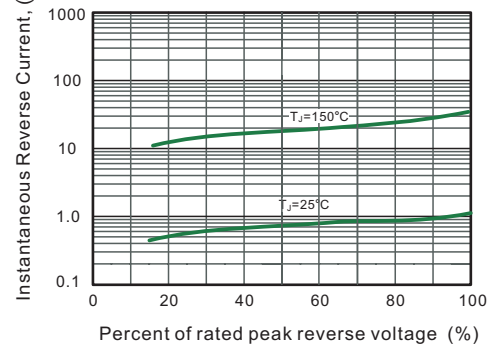


Fig.4 Typical Forward Characteristic

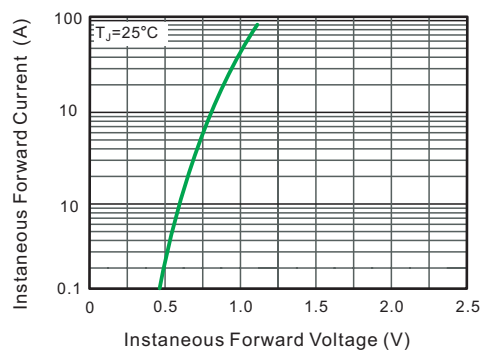


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

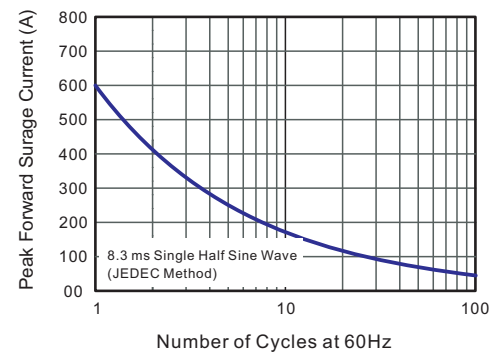


Fig.6 Typical Transient Thermal Impedance

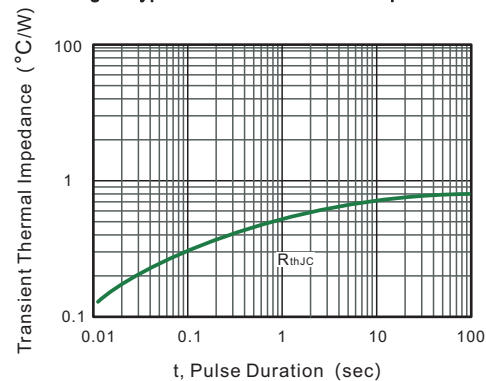
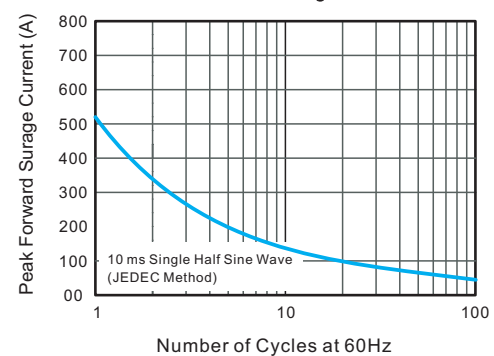
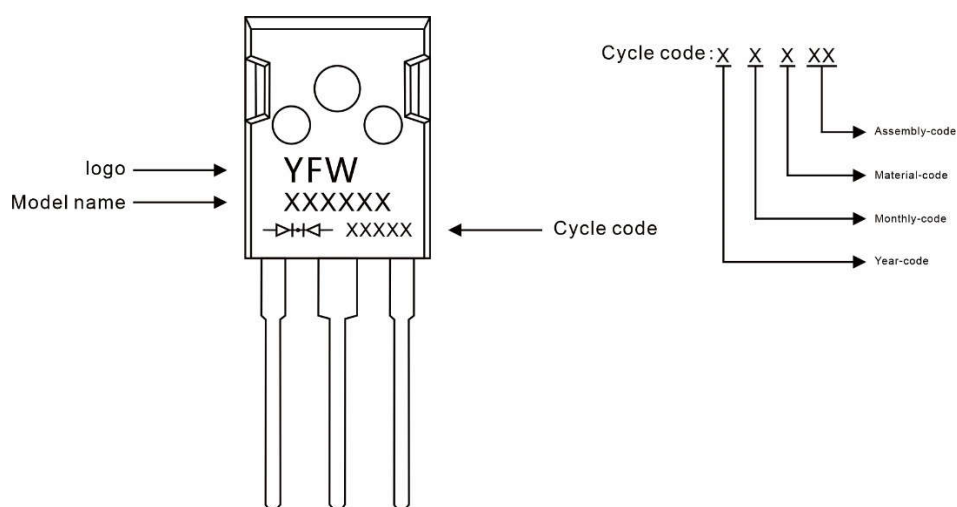


Fig.7 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MUR8020PT	TO-247	0.209oz(5.93g)	30pcs/tube	600PCS/Box 2400PCS/Carton

Package Dimensions

TO-247

Symbol	Dimensions in mm		Dimensions in Inch	
	Min.	Max.	Min.	Max.
A	4.90	5.10	0.193	0.201
A1	1.90	2.10	0.075	0.083
A2	2.29	2.54	0.090	0.100
b	1.00	1.40	0.039	0.055
b1	2.00	2.20	0.079	0.087
b2	3.00	3.20	0.118	0.126
c	0.50	0.70	0.020	0.028
D	15.75	16.05	0.620	0.632
E	20.20	20.80	0.795	0.819
e	5.45 (BSC)		0.215 (BSC)	
e1	10.90 (BSC)		0.429 (BSC)	
F	6.05	6.25	0.238	0.246
F1	5.80	6.00	0.228	0.236
L	20.10	20.40	0.791	0.803
L1	4.05	4.35	0.159	0.171
Φ	3.50	3.70	0.138	0.146

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