

Ultrafast Recovery Rectifier

Reverse Voltage - 1000 V

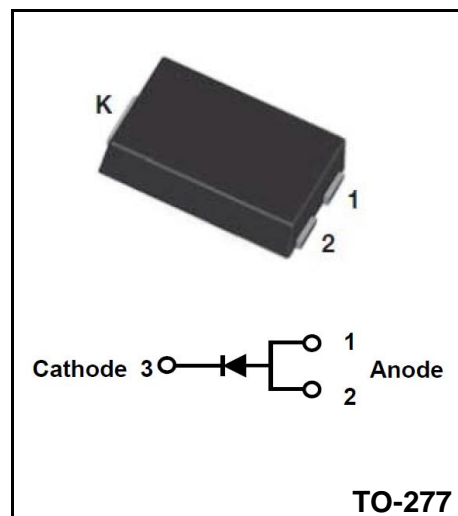
Forward Current - 6.0 A

FEATURES

- ◆For surface mounted applications
- ◆Ideal for automated placement
- ◆High forward surge current capability
- ◆The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆High temperature soldering guaranteed 260°C/10 seconds at terminals

APPLICATION

For use in ultrafast switching rectification of power suppliers, inverters, converters, and freewheeling diodes for consumer and telecommunication.



Absolute Maximum Ratings ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbols	US6MSP	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS voltage	V_{RMS}	800	V
Maximum DC Blocking Voltage	V_{DC}	1000	V
Maximum Average Forward Rectified Current at $T_L=100^{\circ}\text{C}$	$I_{(AV)}$	6.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	175.0	A
Maximum Instantaneous Forward Voltage $I_F=6.0\text{A}$	V_F	1.5	V
Maximum Instantaneous Reverse Current $T_A = 25^{\circ}\text{C}$ at Rated DC Reverse Voltage $T_A = 125^{\circ}\text{C}$	I_R	0.1 10	UA
Maximum reverse recovery time $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$	T_{rr}	60	ns
Typical junction capacitance (Note1)	C_J	45.8	pF
Typical Thermal Resistance(Note2)	R_{qJA} R_{qJC}	60.0 8	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_j	$-55 \sim +150$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^{\circ}\text{C}$

Note:

1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2.Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B.with 0.3" x0.3"(8.0 mm x 8.0 mm)copper pad areas

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

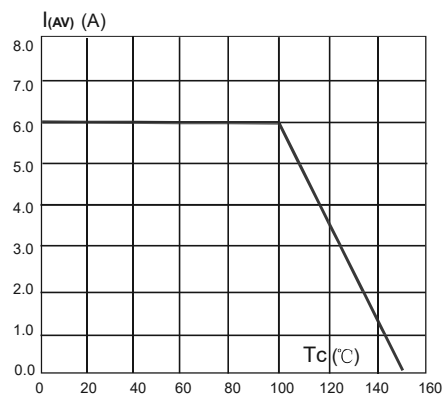


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

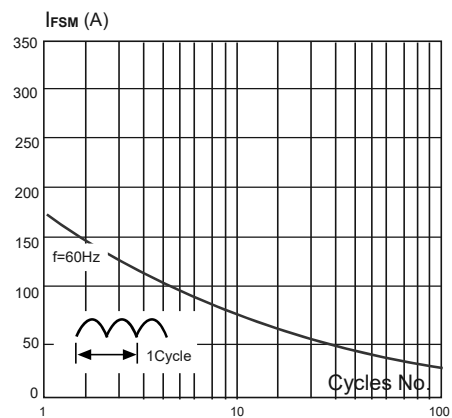


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

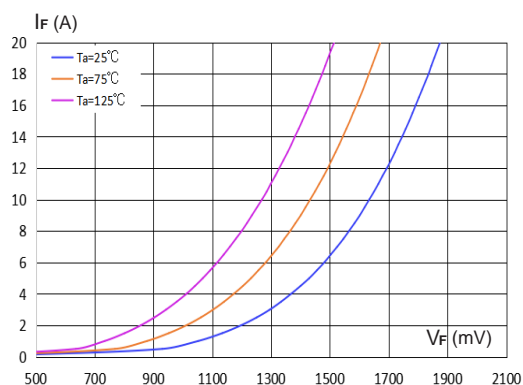
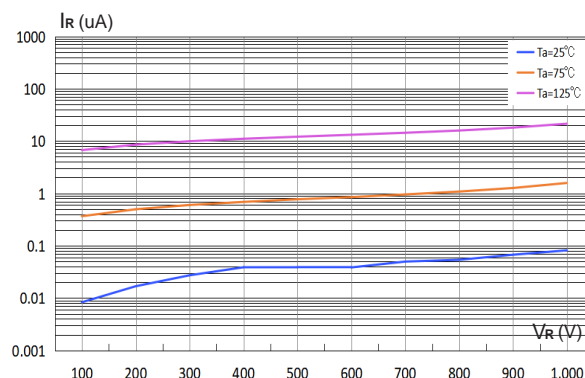
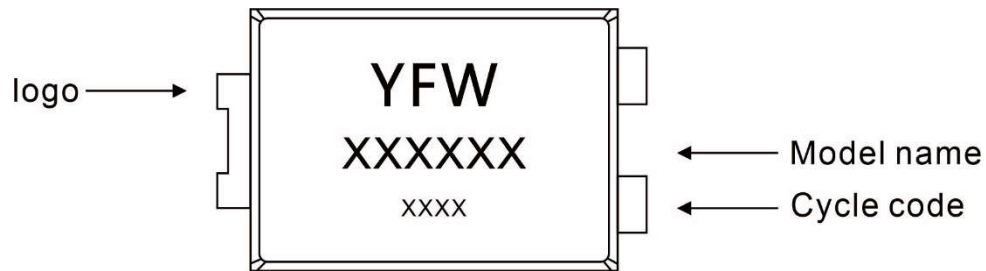


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Marking Diagram



Ordering information

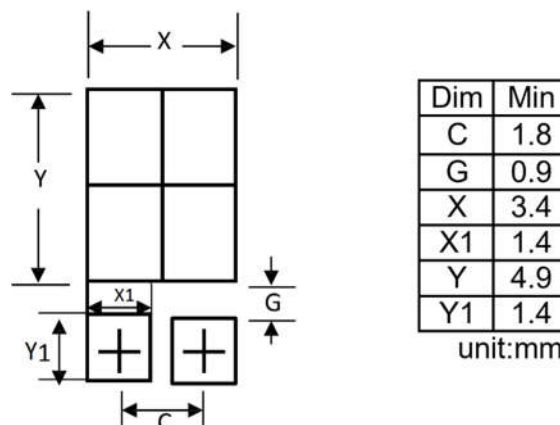
Package	Packing Description	Packing Quantity
TO-277	Tape/Reel, 13" reel	5000PCS/Reel 50000PCS/Carton

Package Dimensions

TO-277

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.1	1.2	43	47
A2	0.3	0.4	12	16
b1	0.8	1	32	39
b2	1.7	1.9	67	75
D	3.9	4.1	154	162
D1	3.054		120	
E	6.4	6.6	252	260
e	1.84		73	
E1	5.3	5.5	209	217
E2	3.549		140	
L	0.8	1	32	39
L1	0.5	0.7	20	28
W	1.1	1.4	43	55

The recommended mounting pad size



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