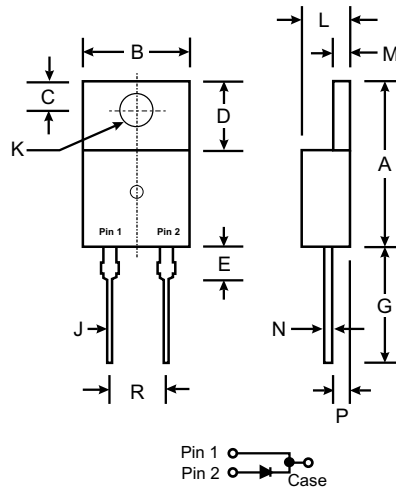


### Features

- Glass Passivated Die Construction
- Diffused Junction
- Super-Fast Switching Times for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 125A Peak
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0



TO-220AC		
Dim	Min	Max
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	—	6.35
G	12.70	14.73
J	0.51	1.14
K	3.53 $\varnothing$	4.09 $\varnothing$
L	3.56	4.83
M	1.14	1.40
N	0.30	0.64
P	2.03	2.92
R	4.83	5.33
All Dimensions in mm		

### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.24 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	STPR 805DF	STPR 810DF	STPR 815DF	STPR 820DF	STPR 830DF	STPR 840DF	STPR 850DF	STPR 860DF	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	150	200	300	400	500	600	V
RMS Reverse Voltage	V <sub>R(RMS)}</sub>	35	70	105	140	210	280	350	420	V
Average Rectified Output Current (Note 1) @ T <sub>C</sub> = 100°C	I <sub>O</sub>	8.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	125								A
Forward Voltage @ I <sub>F</sub> = 8.0A	V <sub>FM</sub>	0.95		1.3			1.5			V
Peak Reverse Current @ T <sub>C</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>C</sub> = 100°C	I <sub>RM</sub>	5.0				500				μA
Reverse Recovery Time (Note 2)	t <sub>rr</sub>	35			50					ns
Typical Junction Capacitance (Note 3)	C <sub>j</sub>	85						60		pF
Typical Thermal Resistance Junction to Case	R <sub>θJC</sub>	6.3								°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-65 to +150								°C

- Notes:
1. Case mounted on heatsink.
  2. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.
  3. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.

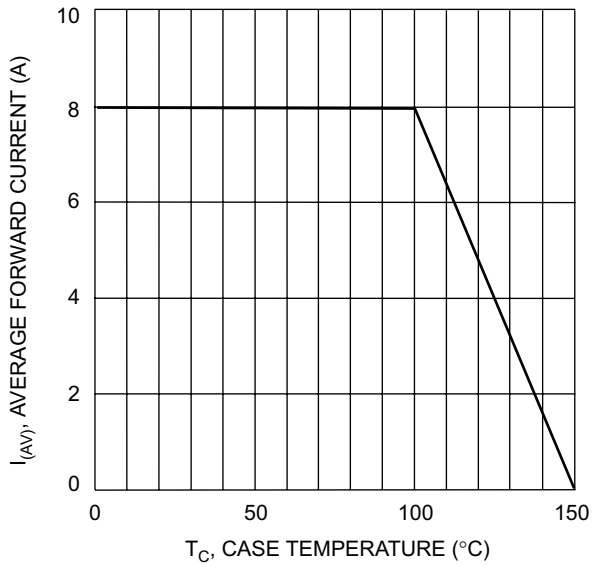


Fig. 1 Forward Current Derating Curve

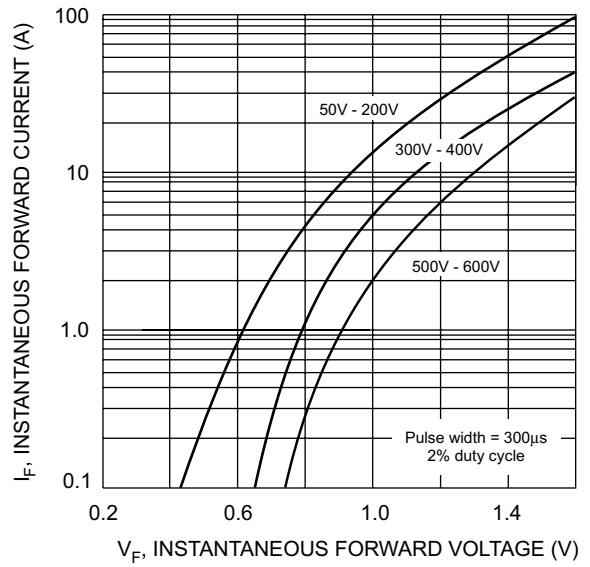


Fig. 2 Typical Forward Characteristics

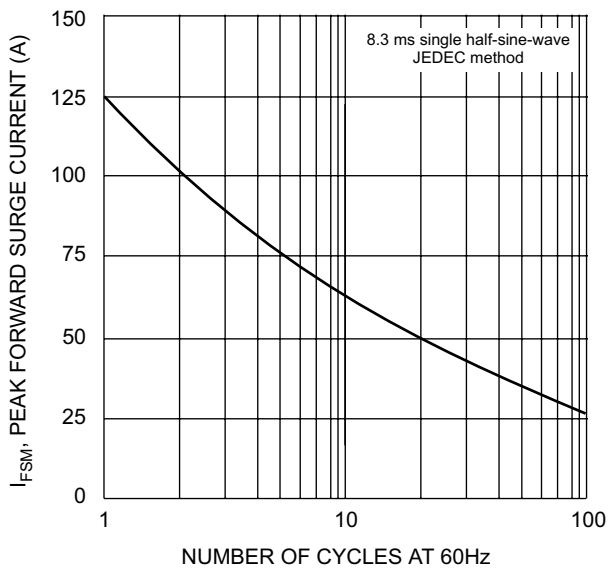


Fig. 3 Max Non-Repetitive Surge Current

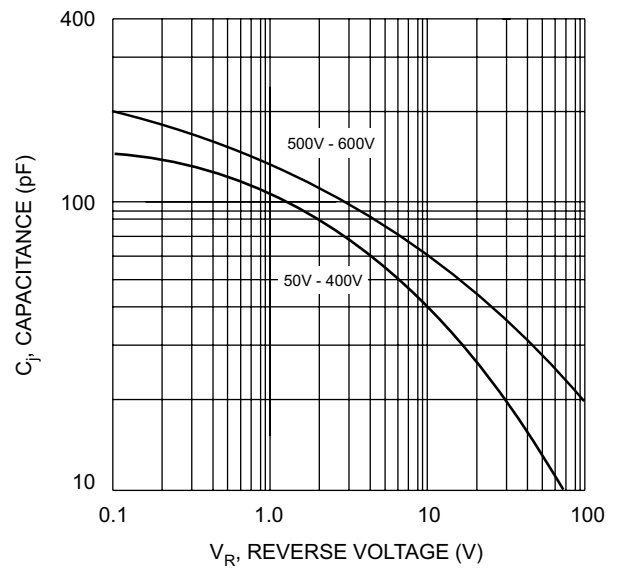


Fig. 4 Typical Junction Capacitance

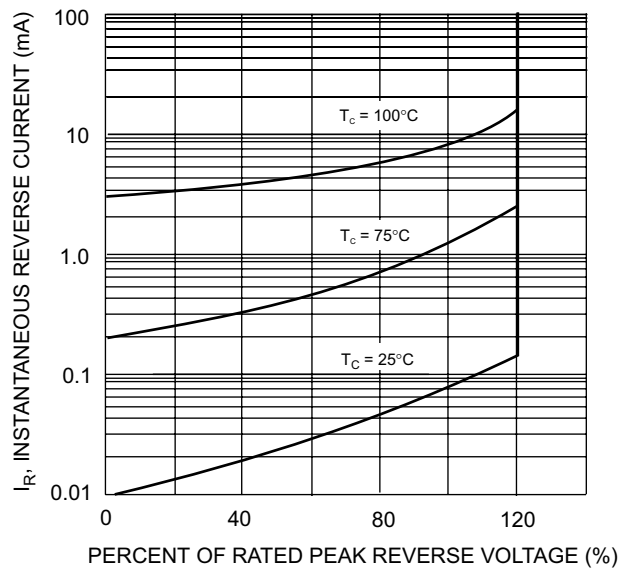


Fig. 5 Typical Reverse Characteristics