

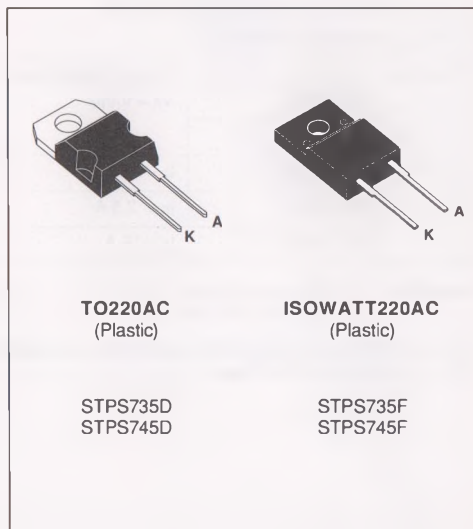
**POWER SCHOTTKY RECTIFIER**

- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- EXTREMELY FAST SWITCHING
- LOW FORWARD VOLTAGE DROP
- HIGH AVALANCHE CAPABILITY
- LOW THERMAL RESISTANCE
- INSULATED PACKAGE :  
 Insulating voltage = 2000V DC  
 Capacitance = 12pF

**DESCRIPTION**

Single chip schottky rectifier suited for switchmode power supply and high frequency DC to DC converters.

Packaged in TO220AC and ISOWATT220AC, this device is intended for use in low voltage, high frequency inverters, free wheeling and polarity protection applications.


**ABSOLUTE RATINGS** (limiting values)

Symbol	Parameter	Value	Unit	
$I_{F(RMS)}$	RMS Forward Current	20	A	
$I_{F(AV)}$	Average Forward Current $\delta = 0.5$	TO220AC	7.5	A
		ISOWATT220AC		
$I_{FSM}$	Surge Non Repetitive Forward Current	$T_p = 10 \text{ ms}$ Sinusoidal	150	A
$I_{RRM}$	Peak Repetitive Reverse Current	$T_p = 2 \mu\text{s}$ $F = 1\text{KHz}$	1	A
$T_{stg}$ $T_j$	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 150	$^\circ\text{C}$
$dV/dt$	Critical Rate of Rise of Reverse Voltage		1000	V/ $\mu\text{s}$

Symbol	Parameter	STPS		Unit
		735D 735F	745D 745F	
$V_{RRM}$	Repetitive Peak Reverse Voltage	35	45	V

**THERMAL RESISTANCE**

Symbol	Parameter	Value	Unit
R <sub>TH(j-c)</sub>	Junction-case	TO220AC	3.0
		ISOWATT220AC	5.5

**ELECTRICAL CHARACTERISTICS**

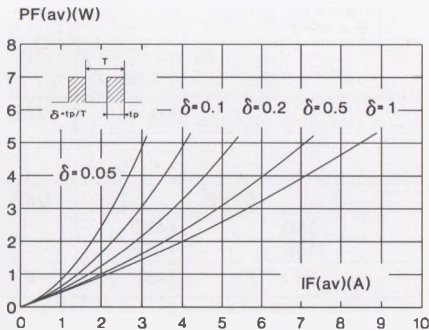
**STATIC CHARACTERISTICS**

Symbol	Tests Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub> *	T <sub>J</sub> = 25°C	V <sub>R</sub> = V <sub>RRM</sub>			100	μA
	T <sub>J</sub> = 125°C				15	mA
V <sub>F</sub> **	T <sub>J</sub> = 125°C	I <sub>F</sub> = 15 A			0.72	V
	T <sub>J</sub> = 125°C	I <sub>F</sub> = 7.5 A			0.57	
	T <sub>J</sub> = 25°C	I <sub>F</sub> = 15 A			0.84	

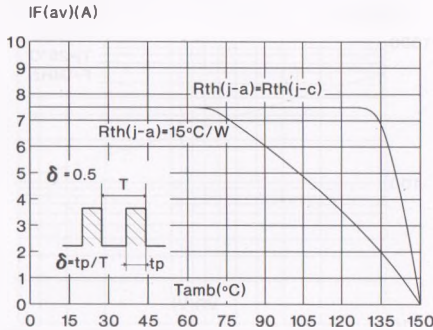
Pulse test : \* tp = 5 ms, duty cycle < 2 %  
 \*\* tp = 380 μs, duty cycle < 2%

To evaluate the conduction losses use the following equation :  
 $P = 0.42 \times I_{F(AV)} + 0.020 I_{F(RMS)}^2$

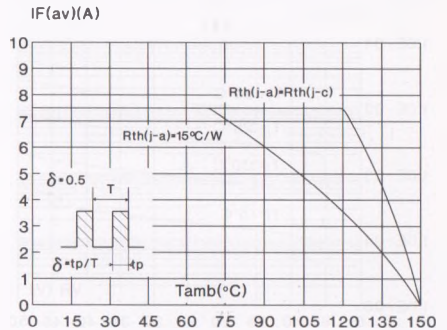
Fig. 1 : Average forward power dissipation versus average forward current.



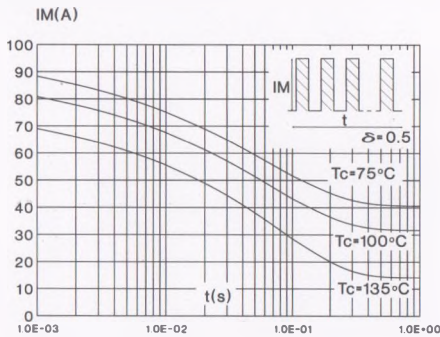
**Fig. 2 :** Average current versus ambient temperature. (duty cycle : 0.5) (TO220AC)



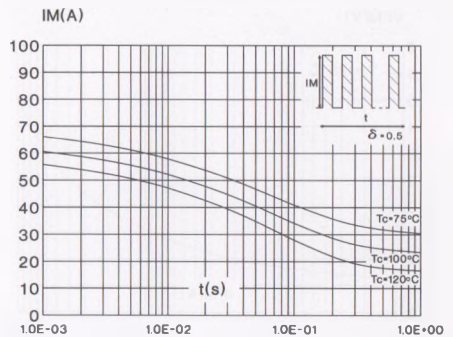
**Fig. 3 :** Average current versus ambient temperature. (duty cycle : 0.5) (TISOWAT220AC)



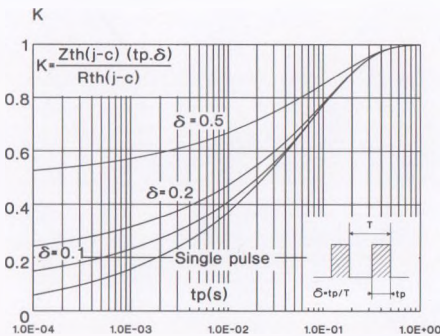
**Fig. 4 :** Non repetitive surge peak forward current versus overload duration. (Maximum values) (TO220AC)



**Fig. 5 :** Non repetitive surge peak forward current versus overload duration. (Maximum values) (ISOWATT220AC)



**Fig. 6 :** Relative variation of thermal transient impedance junction to case versus pulse duration. (TO220AC)



**Fig. 7 :** Relative variation of thermal transient impedance junction to case versus pulse duration. (ISOWATT220AC)

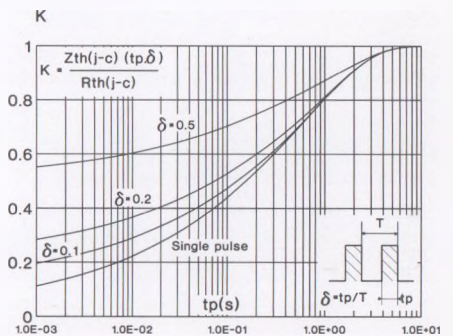


Fig. 8 : Reverse leakage current versus reverse voltage applied. (Typical values)

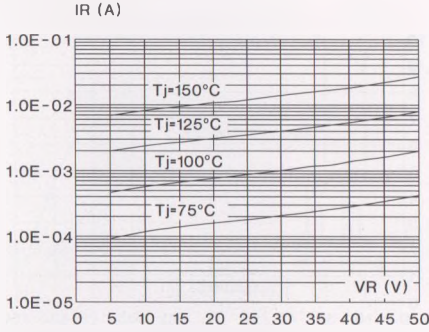


Fig. 9 : Junction capacitance versus reverse voltage applied. (Typical values)

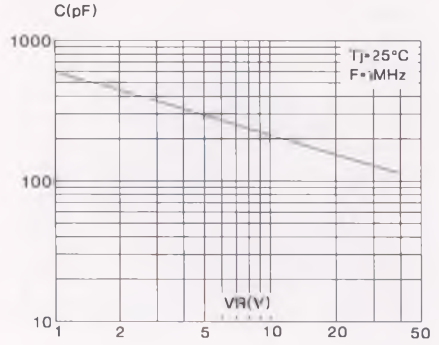


Fig. 10 : Forward voltage drop versus forward current. (Maximum values)

