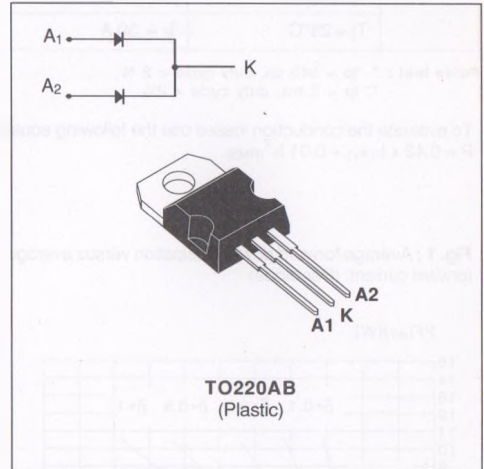


POWER SCHOTTKY RECTIFIER

- 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

Dual center tap schottky rectifier suited for switch-mode power supply and high frequency DC to DC converters.

Packaged in TO220AB, 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		Per diode	30	A
$I_{F(AV)}$	Average Forward Current	$T_c = 135^\circ\text{C}$ $\delta = 0.5$	Per diode Per device	15 30	A
I_{FSM}	Surge Non Repetitive Forward Current	$T_p = 10 \text{ ms}$ Sinusoidal	Per diode	220	A
I_{RRM}	Peak Repetitive Reverse Current	$T_p = 2 \mu\text{s}$ $F = 1\text{KHz}$	Per diode	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/ μs

Symbol	Parameter	STPS		Unit
		3035CT	3045CT	
V_{RRM}	Repetitive Peak Reverse Voltage	35	45	V

THERMAL RESISTANCE

Symbol	Parameter		Value	Unit
$R_{TH(j-c)}$	Junction-case	Per diode total	1.60 0.85	$^\circ\text{C/W}$
$R_{TH(c)}$	Coupling		0.10	$^\circ\text{C/W}$

When the diodes 1 and 2 are used simultaneously :

$$\Delta T_{j(\text{diode } 1)} = P(\text{diode } 1) \times R_{TH(\text{Per diode})} + P(\text{diode } 2) \times R_{TH(c)}$$

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS PER DIODE

Symbol	Tests Conditions		Min.	Typ.	Max.	Unit
I _R **	T _j = 25°C	V _R = V _{RRM}			200	μA
	T _j = 125°C				40	mA
V _F *	T _j = 125°C	I _F = 30 A			0.72	V
	T _j = 125°C	I _F = 15 A			0.57	
	T _j = 25°C	I _F = 30 A			0.84	

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

To evaluate the conduction losses use the following equation :

$$P = 0.42 \times I_{F(AV)} + 0.01 I_F^2_{(RMS)}$$

Fig. 1 : Average forward power dissipation versus average forward current. (Per diode)

Fig. 2 : Average current versus ambient temperature. (duty cycle : 0.5) (Per diode)

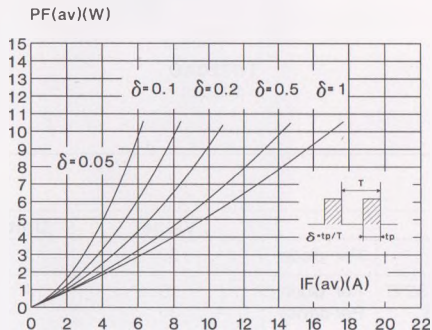


Fig. 3 : Non repetitive surge peak forward current versus overload duration. (Maximum values) (Per diode)

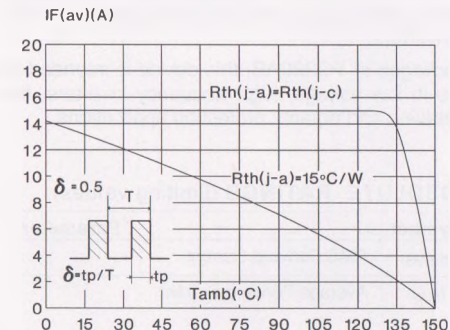


Fig. 4 : Relative variation of thermal transient impedance junction to case versus pulse duration.

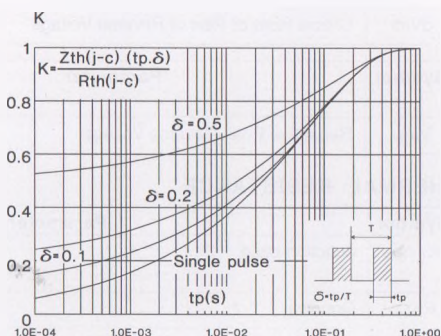
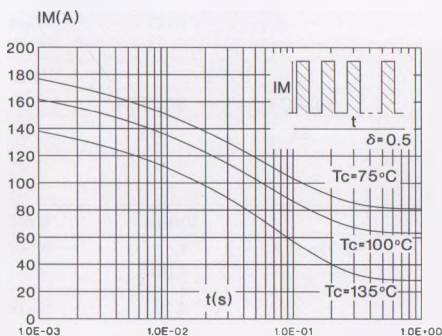


Fig. 5 : Reverse leakage current versus reverse voltage applied. (Typical values) (Per diode)

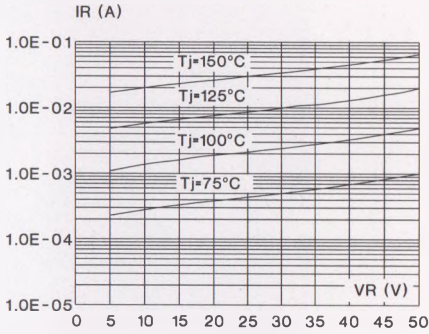


Fig. 6 : Junction capacitance versus reverse voltage applied. (Typical values) (Per diode)

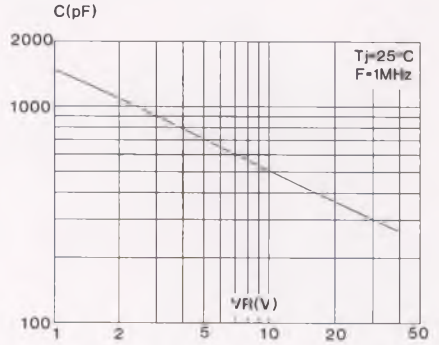


Fig. 7 : Forward voltage drop versus forward current. (Maximum values) (Per diode)

