

POWER SCHOTTKY RECTIFIER

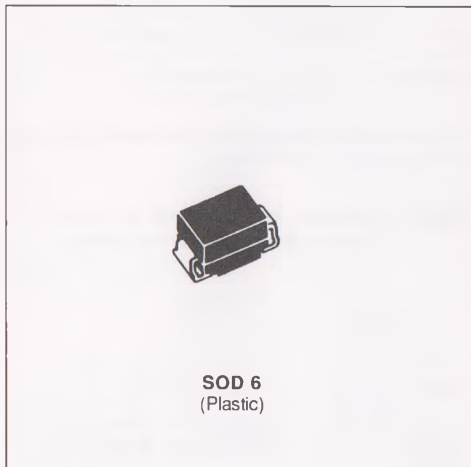
- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- LOW THERMAL RESISTANCE
- EXTREMELY FAST SWITCHING
- SURFACE MOUNTED DEVICE

DESCRIPTION

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

Packaged in SOD 6 *, this device is intended for surface mounting and use in low voltage, high frequency inverters, free wheeling and polarity protection applications.

(*) in accordance with DO214AA standard.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$I_{F(RMS)}$	RMS Forward Current	10	A
$I_{F(AV)}$	Average Forward Current	$T_L = 105^\circ\text{C}$ $\delta = 0.5$	A
I_{FSM}	Surge Non Repetitive Forward Current	$T_p = 10 \text{ ms}$ Sinusoidal	A
I_{RRM}	Peak Repetitive Reverse Current	$T_p = 2 \mu\text{s}$ $F = 1 \text{ KHz}$	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
		320U	330U	340U	
V_{RRM}	Repetitive Peak Reverse Voltage	20	30	40	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{TH(-)}$	Junction-leads	20	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS
STATIC CHARACTERISTICS

Symbol	Tests Conditions		Min.	Typ.	Max.	Unit
I_R^{**}	$T_J = 25^\circ\text{C}$	$V_R = V_{RRM}$			100	μA
	$T_J = 125^\circ\text{C}$				10	mA
V_F^*	$T_J = 125^\circ\text{C}$	$I_F = 6\text{ A}$			0.72	V
	$T_J = 125^\circ\text{C}$	$I_F = 3\text{ A}$			0.57	
	$T_J = 25^\circ\text{C}$	$I_F = 6\text{ A}$			0.84	

Pulse test : * $t_p = 380\ \mu\text{s}$, duty cycle < 2 %
 ** $t_p = 5\ \text{ms}$, duty cycle < 2%

To evaluate the conduction losses use the following equation :
 $P = 0.42 \times I_{F(AV)} + 0.050 I_F^2(RMS)$

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

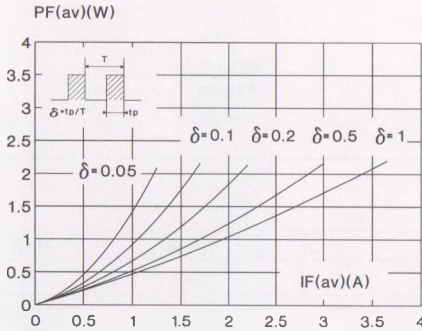


Figure 3 : Non repetitive surge peak forward current versus overload duration. (Maximum values)

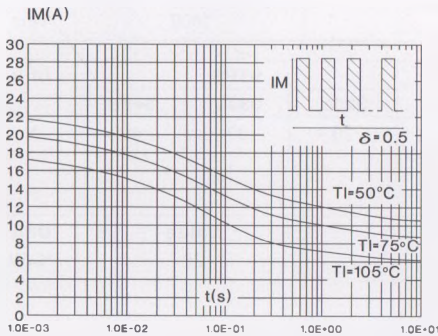


Figure 2 : Average current versus ambient temperature. (duty cycle : 0.5)

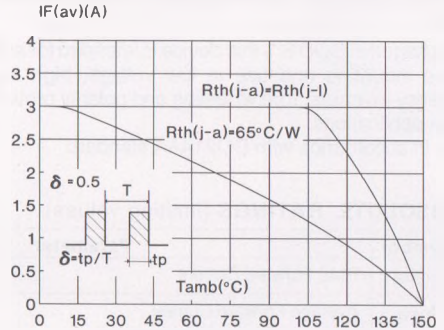


Figure 4 : Relative variation of thermal transient impedance junction to lead versus pulse duration.

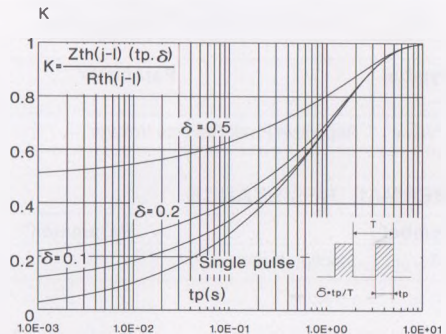


Figure 5 : Reverse leakage current versus reverse voltage applied.
(Typical values)

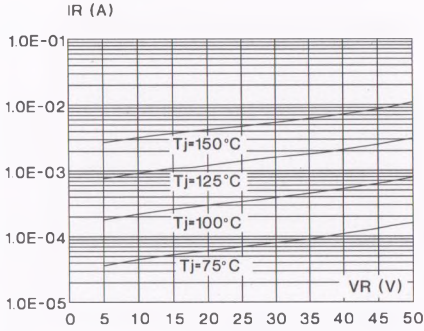


Figure 6 : Junction capacitance versus reverse voltage applied.
(Typical values)

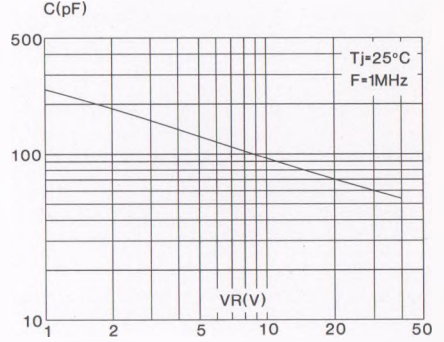
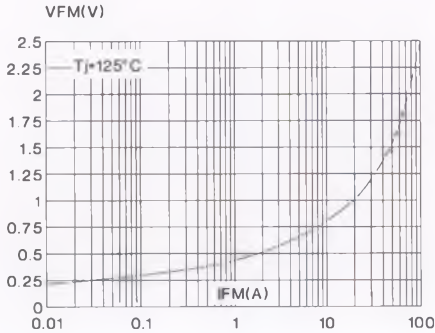


Figure 7 : Forward voltage drop versus forward current.
(Maximum values)



Voltage (V)	20	30	40
Marking	U32	U33	U34

Laser marking
Logo indicates cathode