



SCHOTTKY RECTIFIER

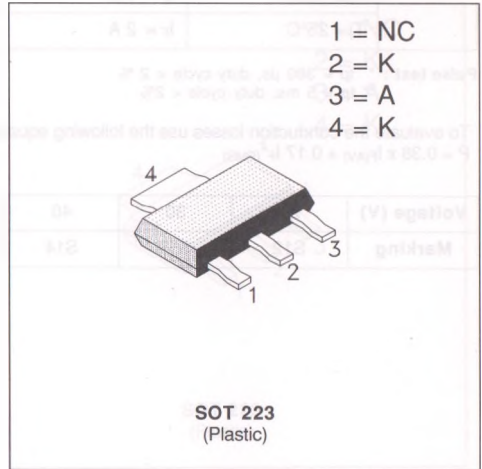
PRELIMINARY DATA

- 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 SOT 223, this device is intended for surface mounting and 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	1.4	A
$I_{F(AV)}$	Average Forward Current	1	A
I_{FSM}	Surge Non Repetitive Forward Current	10	A
I_{RRM}	Peak Repetitive Reverse Current	1	A
T_{stg} T_J	Storage and Junction Temperature Range	- 65 to + 150 - 65 to + 150	°C
dV/dt	Critical Rate of Rise of Reverse Voltage	1000	V/ μ s

Symbol	Parameter	STPS			Unit
		120E	130E	140E	
V_{RRM}	Repetitive Peak Reverse Voltage	20	30	40	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{TH(j-t)}$	Junction to Tab for D.C	20	°C/W
$R_{TH(j-a)}$	Junction to Ambient with 5cm ² Copper Surface Under Tab	55	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Tests Conditions		Min.	Typ.	Max.	Unit
I _R **	T _j = 25°C	V _R = V _{RRM}			500	μA
	T _j = 100°C				10	mA
V _F *	T _j = 125°C	I _F = 2 A			0.72	V
	T _j = 125°C	I _F = 1 A			0.55	
	T _j = 25°C	I _F = 2 A			0.81	

Pulse test : * t_p = 380 μs, duty cycle < 2 %

** t_p = 5 ms, duty cycle < 2%

To evaluate the conduction losses use the following equation :

$$P = 0.38 \times I_{F(AV)} + 0.17 I_{F(RMS)}^2$$

Voltage (V)	20	30	40
Marking	S12	S13	S14