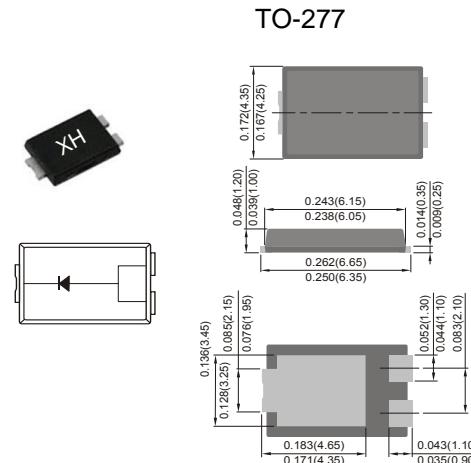


Features

- Planar Mos Schottky barrier diodes
- Low forward voltage drop
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Low profile - typical height of 1.1 mm
- Heatsink design
- High temperature soldering guaranteed: 260°C/10 seconds
- Halogen-free according to IEC 61249-2-21 definition



TYPICAL APPLICATIONS

For low voltage high frequency inverters, DC/DC converters and polarity protection application.

Dimensions in inches and (millimeters)

MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SP1045L	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	45	V
Maximum RMS voltage	V _{RMS}	31.5	V
Maximum DC blocking voltage	V _{DC}	45	V
Maximum average forward rectified current	I _{F(AV)¹}	10.0	A
	I _{F(AV)²}	5.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	280	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage	I _F =1A	T _A =25°C	V _F	0.30	0.33	Volts	
	I _F =2A			0.32	0.38		
	I _F =10A			0.42	0.45		
	I _F =1A	T _A =85°C		0.22	0.27		
	I _F =2A			0.25	0.3		
	I _F =10A			0.36	0.42		
	I _F =1A	T _A =125°C		0.16	0.20		
	I _F =2A			0.20	0.24		
	I _F =10A			0.32	0.36		
Instantaneous reverse current	Rated VR	T _A =25	I _R	0.23	0.3	mA	
		T _A =85		14.5	18		
		T _A =100		35	39		
Typical junction capacitance	4.0 V, 1 MHz		C _J	0.95		nF	
Typical thermal resistance ¹⁾	junction to ambient		R _{θJA}	80		°C/W	
	junction to case		R _{θJC}	35			
	junction to mount		R _{θJM}	20			

Note:1),The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 30×30mm copper pads,2 OZ,FR4 PCB

2):Mounted on recommended copper pad area,free air.

RATINGS AND CHARACTERISTICS CURVES

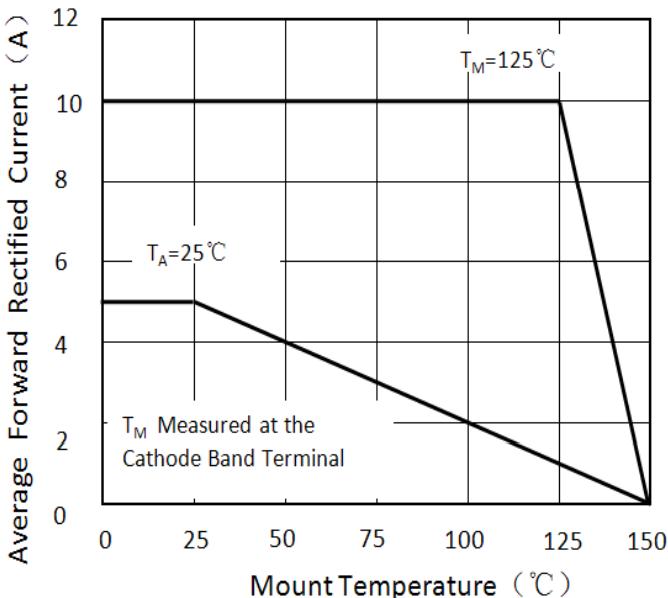


Figure 1. Forward Current Derating Curve

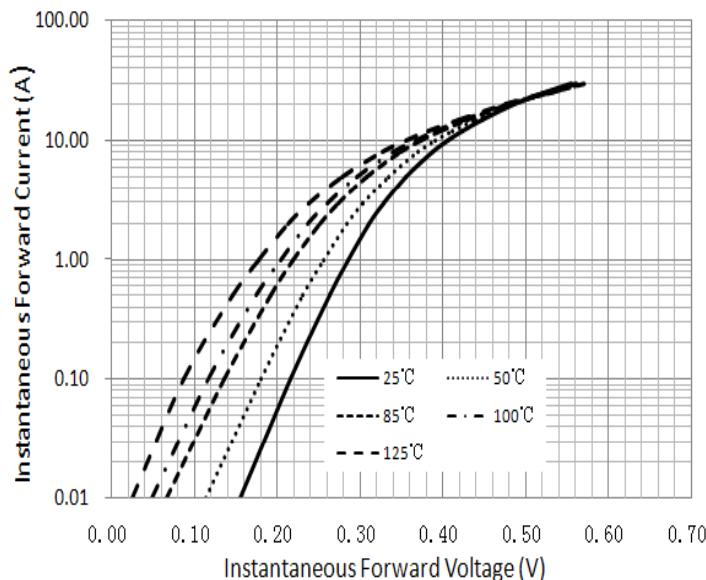


Figure 2. Typical Instantaneous Forward Characteristics

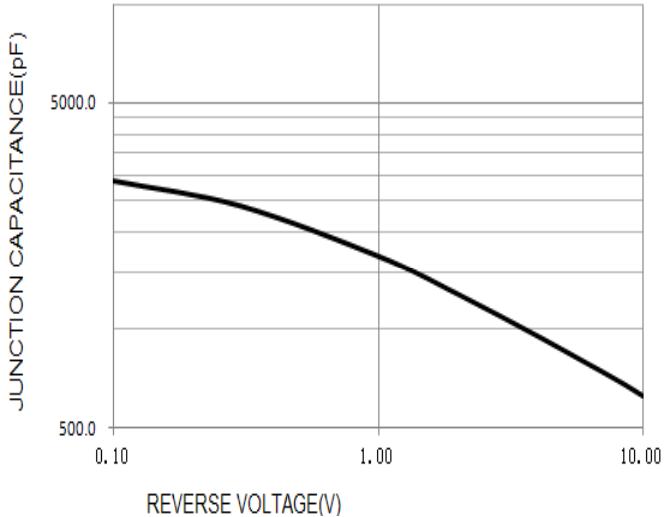


Figure 3. Typical Junction Capacitance

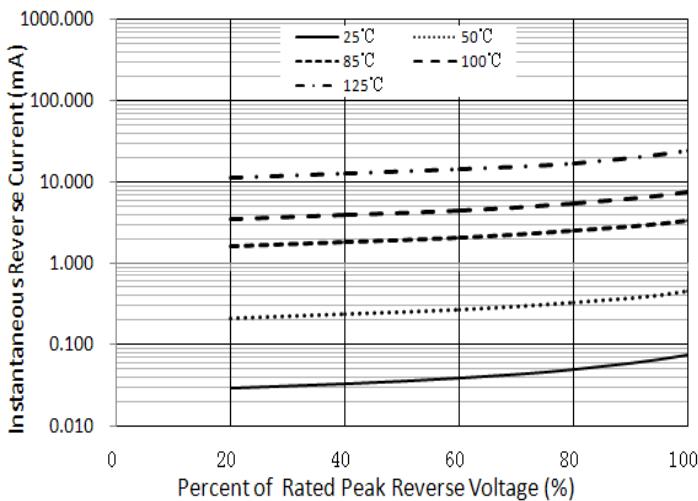


Figure 4. Typical Reverse Characteristics

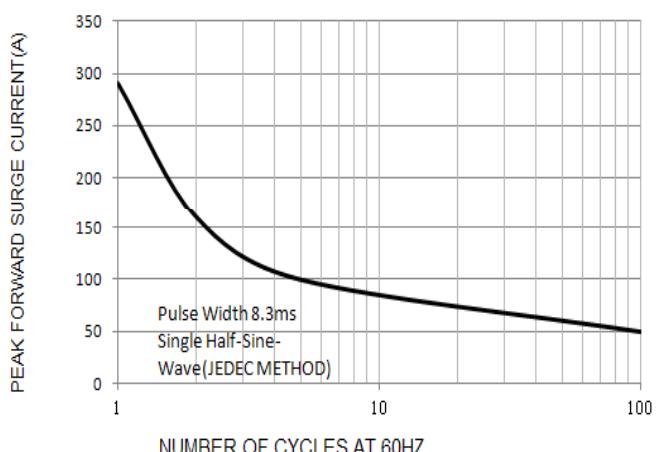


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current