



**Photovoltaic Solar Cell Protection  
Schottky Diode**

**Reverse Voltage - 45 Volts  
Forward Current - 20 Amperes**

**Features**

- Low power loss, high efficiency
- High current capability, low  $V_F$
- High surge capacity

**Mechanical Data**

- Case: D2PAK molded plastic
- Polarity: As marked on the body
- Mounting position: Any

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

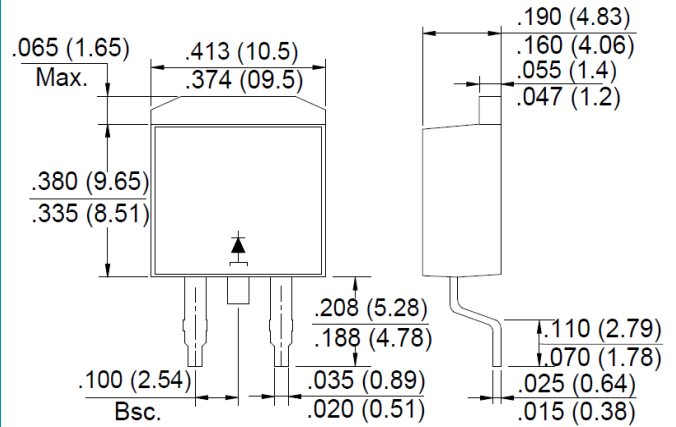
**Applications**

- For use in solar cell junction box as a bypass diode

**D2PAK**



**RoHS  
COMPLIANT**



Package Outline Dimensions in Inches (Millimeters)

**Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristics	Symbol	SPA2045	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 @ $T_c=175^\circ\text{C}$	$I_{(AV)}$	20	A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load ( JEDEC Method )	$I_{FSM}$	400	A
Peak Forward Voltage at 20A DC ( Note1 )	$V_F$	0.55	V
Maximum DC Reverse Current at Rated DC Bolcking Voltage @ $T_J=25^\circ\text{C}$	$I_R$	0.5	mA
Maximum DC Reverse Current at Rated DC Bolcking Voltage @ $T_J=125^\circ\text{C}$		50	
Typical Thermal Resistance Junction to Case	$R_{\theta Jc}$	1.5	$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	-55 to +200	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +200	$^\circ\text{C}$

- Notes: 1. 300uS pulse width, 2%duty cycle.  
2. The typical data above is for reference only.



Fig. 1 - Forward Current Derating Curve

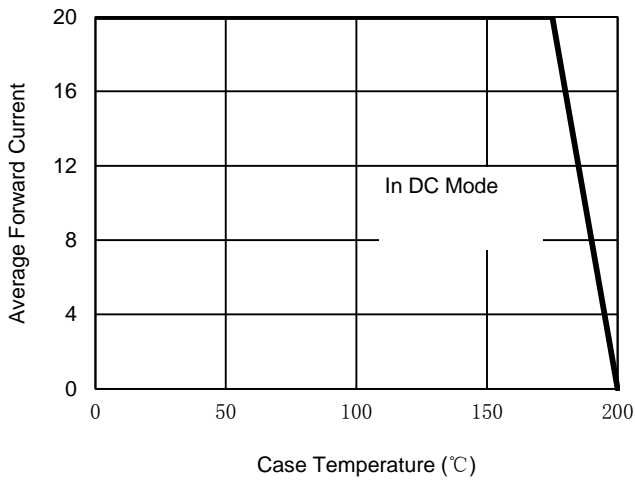


Fig. 2 - Maximum Non-Repetitive Surge Current

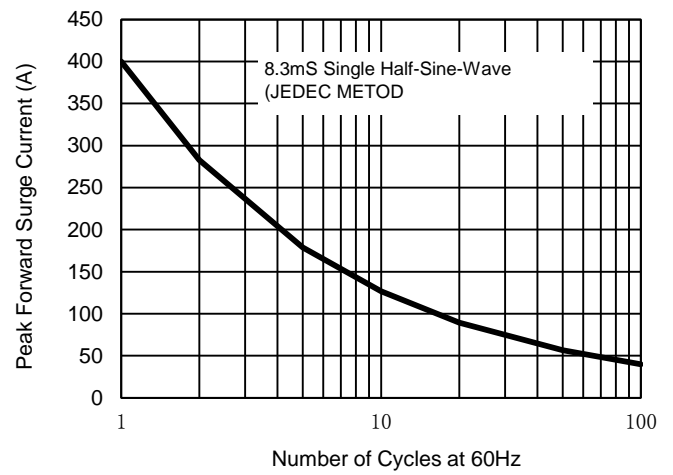


Fig. 3 - Typical Reverse Characteristics

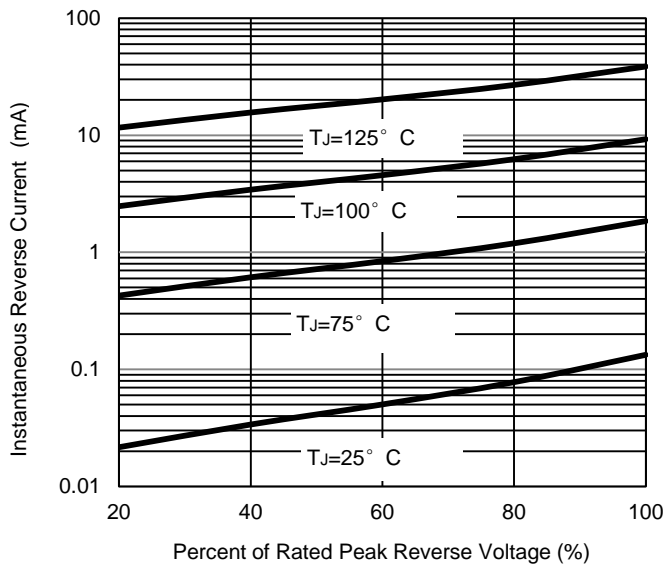
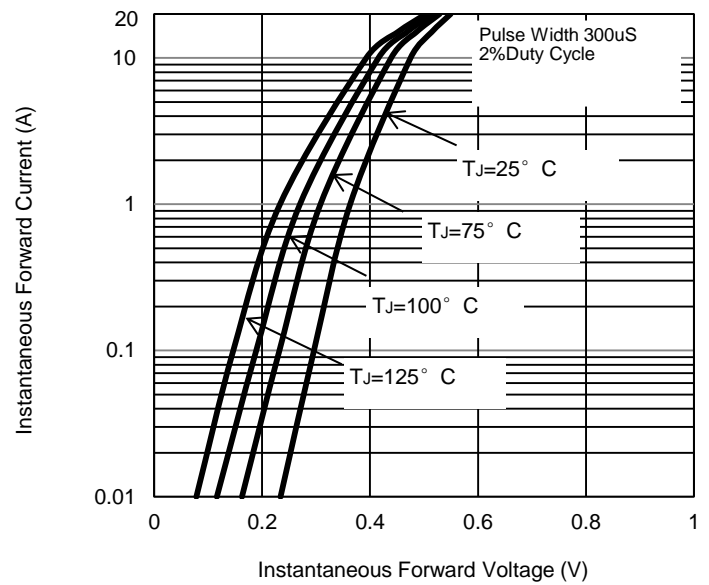


Fig. 4 - Typical Forward Characteristics





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