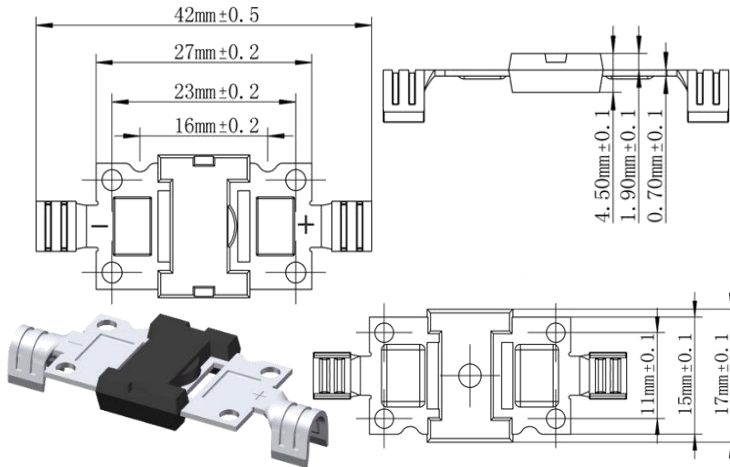


Photovoltaic Solar Cell Protection Schottky Rectifier



FEATURES

- Low power loss
- Low forward voltage drop
- High forward surge capability
- High efficiency



RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in solar cell junction box as a bypass diode for protection.

MECHANICAL DATA

Case: MJ-01: MJ-01

Molding compound meets UL 94 V-0 flammability rating

UL 94 V-0

Terminals: Matte tin plated leads

Polarity: As marked on the body

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	50 A
V_{RRM}	45 V
V_F	0.6 V

MAXIMUM RATING ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MK5045	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	$I_{F(AV)}$	50.0	A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load @60Hz	I_{FSM}	400	A
Operating junction temperature range	T_J	-55 to +200	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	MK5045	UNIT
Maximum instantaneous forward voltage	50.0 A	$V_F^{(1)}$	0.6	V
Maximum instantaneous reverse current at rated DC blocking voltage	$T_J = 25\text{ }^\circ\text{C}$	$I_R^{(1)}$	0.5	mA
	$T_J = 125\text{ }^\circ\text{C}$		100	

Note

(1) Pulse test: 300us pulse width, 1% duty cycle 300us

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	MK5045	UNIT
Typical thermal resistance	Junction to Case	R_{th-jc}	0.8	$^\circ\text{C/W}$

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RATING AND CHARACTERISTICS CUEVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

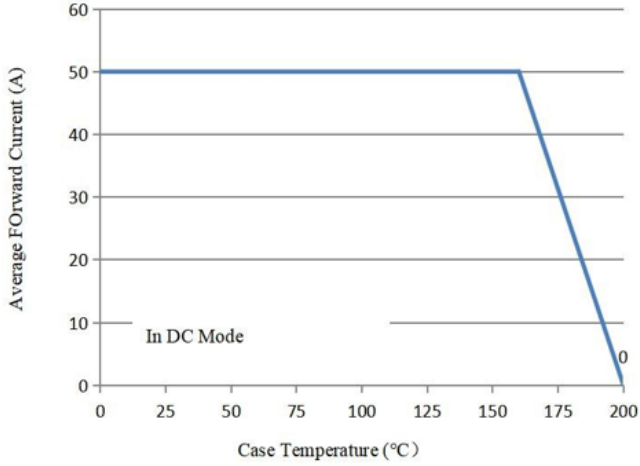


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

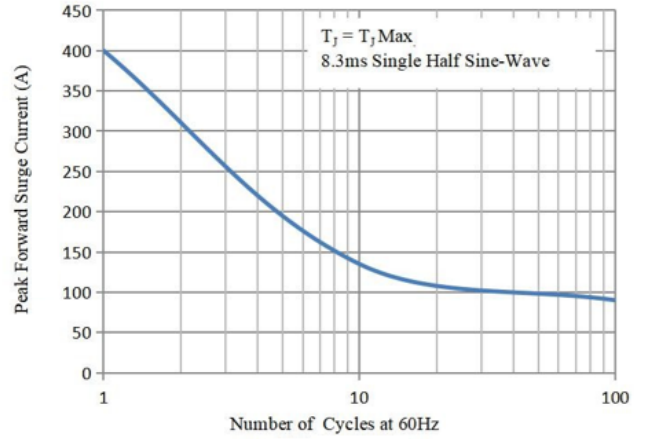


Fig. 3 - Typical Reverse Characteristics

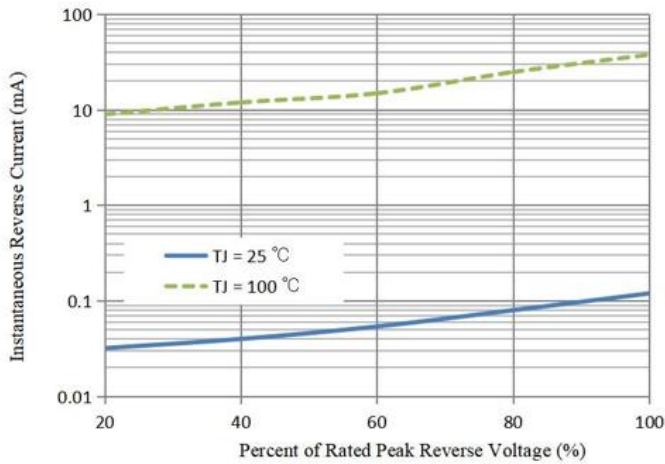


Fig. 4 - Typical Instantaneous Forward Characteristics

