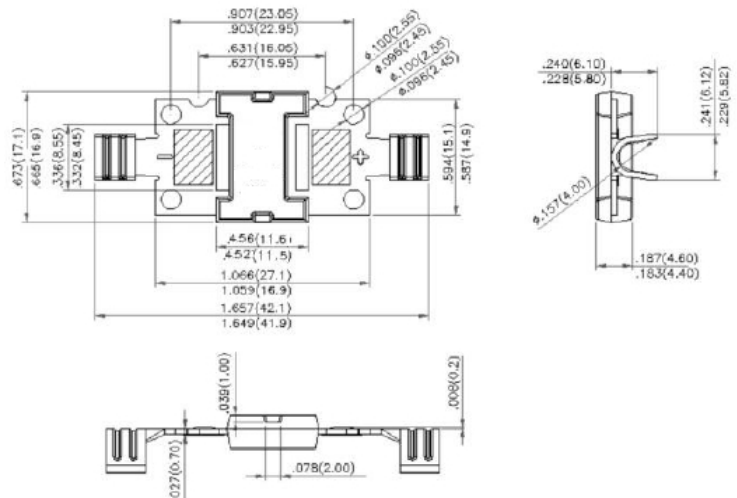


Bypass Diode Module For PV
REVERSE VOLTAGE: 45 V
FORWARD CURRENT: 40 A

FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low IR
- High surge capacity
- High temperature reverse characteristic is excellent
- For use in photovoltaic solar cell protection

MT09E

Dimensions in inches and (millimeters)
MECHANICAL DATA

Case: Molded plastic, MT09E

Epoxy: UL 94V-O rate flame retardant

Polarity: As marked

Mounting position: Any

Marking: MK4045

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	40MT045	Units
Maximum Recurrent 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 at $T_C = 125^\circ\text{C}$	$I_{(AV)}$	40.0	A
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	400	A
Maximum Forward Voltage (Note 1)	V_F	at $I_F = 30\text{A}, T_C = 25^\circ\text{C}$	0.55
		at $I_F = 40\text{A}, T_C = 25^\circ\text{C}$	0.59
		at $I_F = 40\text{A}, T_C = 125^\circ\text{C}$	0.47
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	at $T_J = 25^\circ\text{C}$	0.5
		$T_J = 100^\circ\text{C}$	500
Typical Thermal Resistance	$R_{\theta JC}$	1.2	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OP}	-55 to +150	$^\circ\text{C}$
Junction Temperature in DC Forward Current Without Reverse Bias. $T \leq 1$ hour (Note 3)	T_J	$\leq 200^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

NOTES:

- 1- 300us Pulse Width, 2%Duty Cycle.
- 2- Thermal Resistance Junction to Case. Without Heatsink.
- 3- Meets The Requiements Of IEC 61215 ed. 2 Bypass Diode Thermal Test.

Bypass Diode Module For PV

RATINGS AND CHARACTERISTIC CURVES

FIG.1 FORWARD CURRENT DERATING CURVE

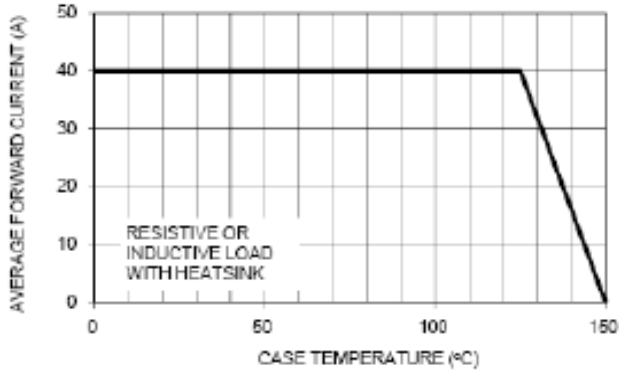


FIG.2 – MAXIMUM NON-REPETITIVE SURGE

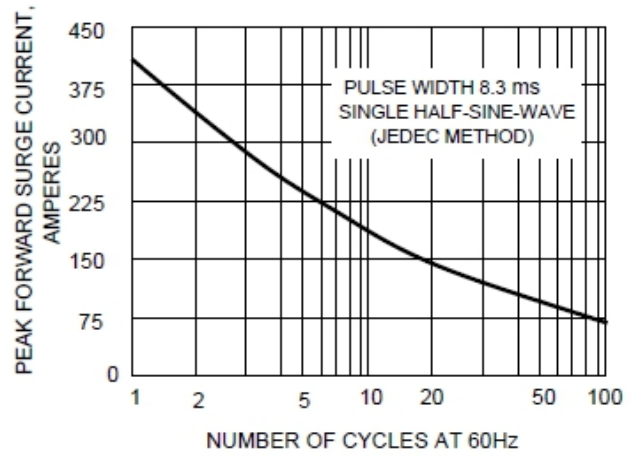


FIG.3-TYPICAL REVER CHARACTERISTICS

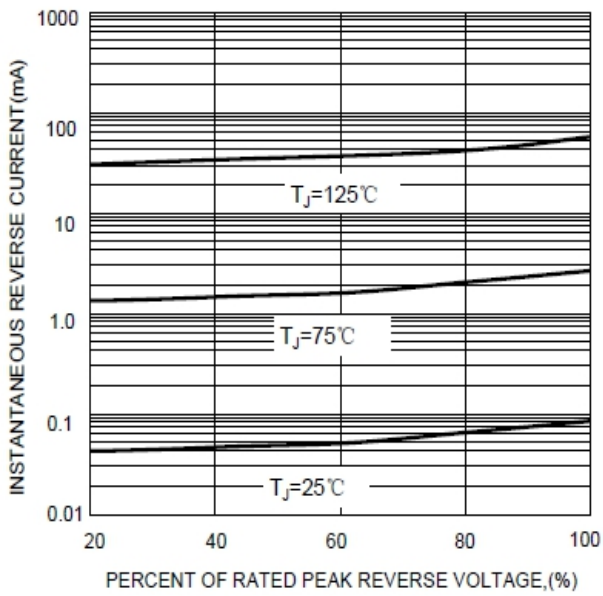


FIG.4-TYPICAL FORWARD CHARACTERISTICS

