Schottky Bypass Diode Module

Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation forenhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Applications

- Photovoltaic solar cell protection schottky rectifier

Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal tin plated leads
- Polarity: As marked

Maximum Ratings & Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	MK4045	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Average Rectified Output Current @60Hz sine wave, R-load, Ta=25℃	$I_{F(AV)}$	40	A
Surge(Non-repetitive)Forward Current @60Hz sine wave, 1 cycle, Tj=25℃	I_{FSM}	300	A
Storage Temperature	T_{stg}	-55 to +150	°C
Junction Temperature IN DC Forward Mode-Forward Operations，without reverse bias, t ≤1 h (Fig. 1)（1）	T_J	200	°C
Current Squared Time @1ms≤t℃, Rating of per diode	I^2t	375	A_2S

Note

(1) Meets the requirements of IEC 61215 Ed. 2 bypass diode thermal test.

Electrical Specifications (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Typ	Min	Max	Unit
Reverse breakdown voltage	V_{BR}	IR=500μA	55	48	-	V
Forward voltage drop	V_F	IF=40A	0.475	0.44	0.54	V
Reverse leakage current	I_R	VR=45V	-	-	30	μA

Thermal-Mechanical Specifications (T_A=25℃ unless otherwise noted)

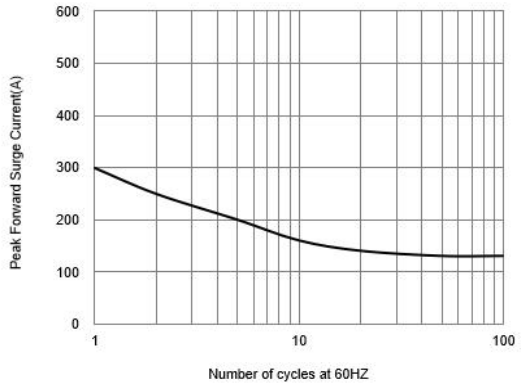
Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	-	1.5-	℃ /W

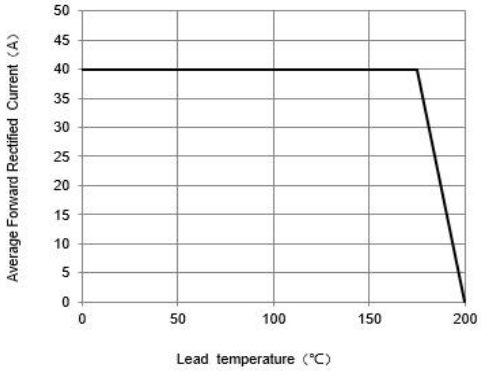
Note
(1) Thermal resistance from Between junction and case, On glass-epoxi substrate.

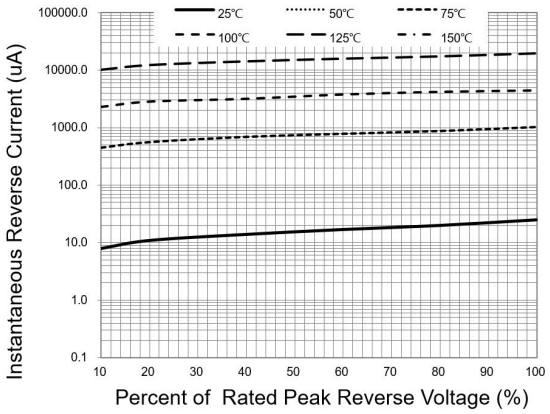
Ordering Information (Example)

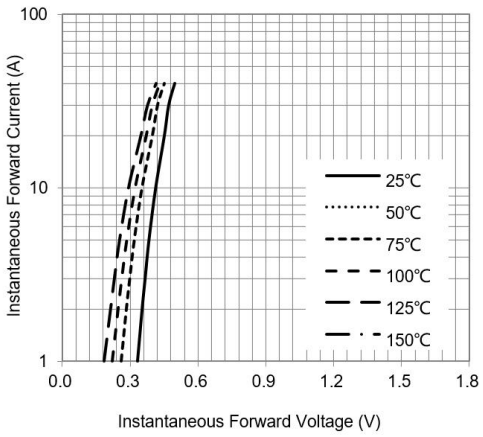
PREFERRED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MK4045	Approximate 4.8	30	450	2700	Tube

Characteristics Curves





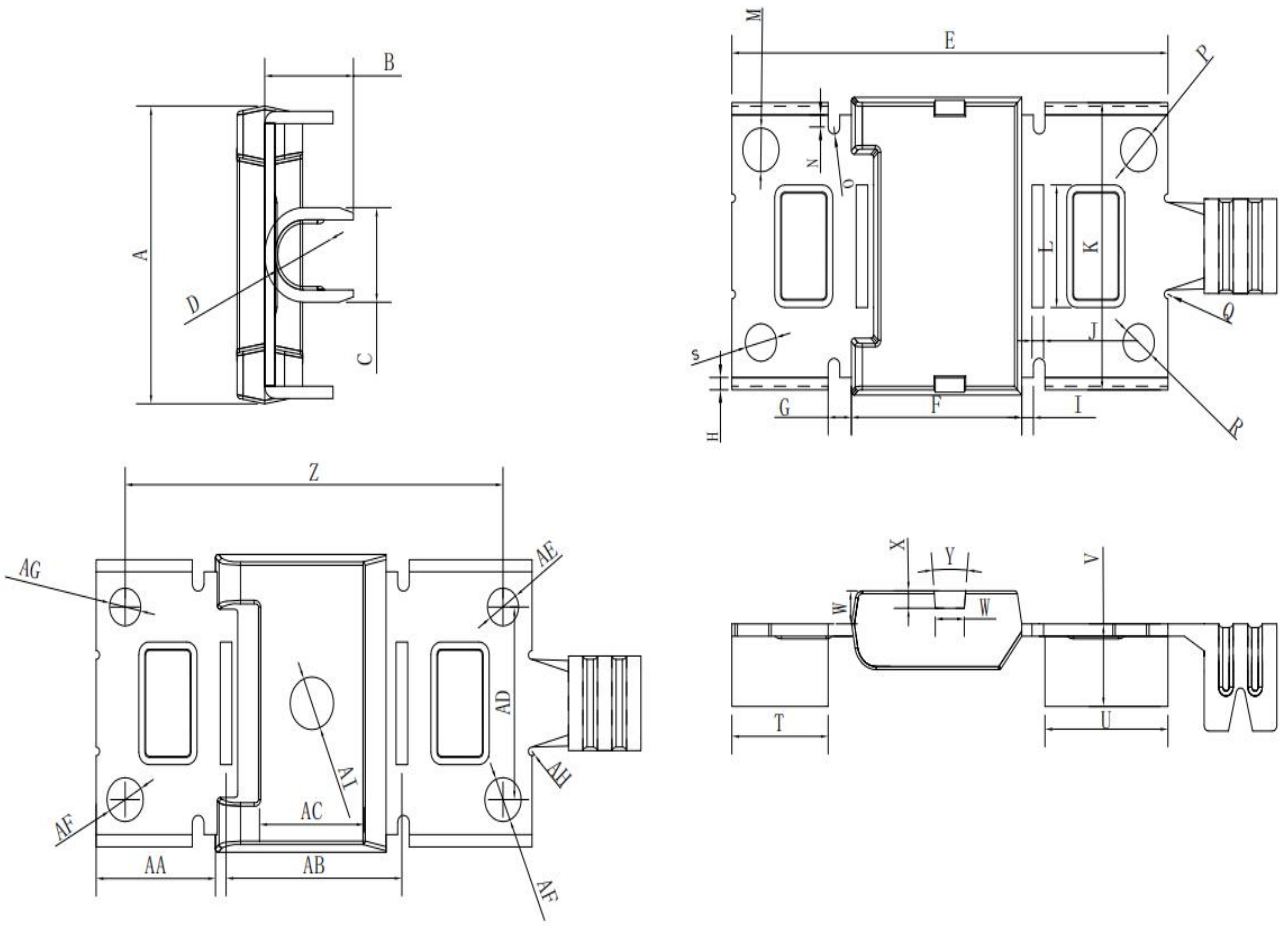




Package Outline Dimensions

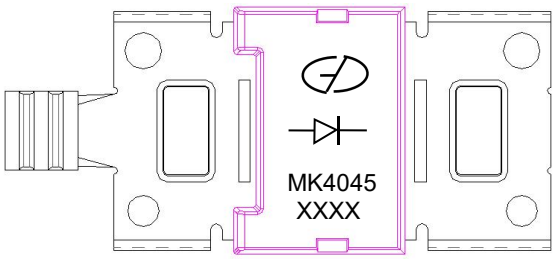
(Unit: millimeters)

MK4045



DIM	MIN	MAX	DIM	MIN	MAX
A	16.9	17.1	R	Ø2.15	Ø2.15
B	5.7	5.9	S	Ø2.15	Ø2.15
C	5.2	5.6	T	6.53	6.73
D	Ø3.9	Ø4.1	U	8.35	8.55
E	29.9	30.1	V	4.50	4.90
F	11.63	11.83	W	1.90	1.90
G	1.59	1.59	X	1.00	1.00
H	1.40	1.40	Z	25.90	26.10
I	0.80	0.80	AA	8.22	8.22
J	0.8	1.0	AB	12.10	12.10
K	16.30	16.50	AC	7.18	7.18
L	7.00	7.00	AD	10.90	11.10
M	Ø2.50	Ø2.50	AE	Ø2.15	Ø2.15
N	1.40	1.40	AF	Ø2.50	Ø2.50
O	R0.80	R0.80	AG	Ø2.15	Ø2.15
P	Ø2.50	Ø2.50			
Q	R0.50	R0.50			

Marking Outline



1. Logo Mark:
2. Polarity:
3. Part Name: MK4045
4. Date Code: XXXX

Revision History

Document Version	Date of release	Description of changes
Rev.A	2023.09.18	Preliminary Datasheet

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