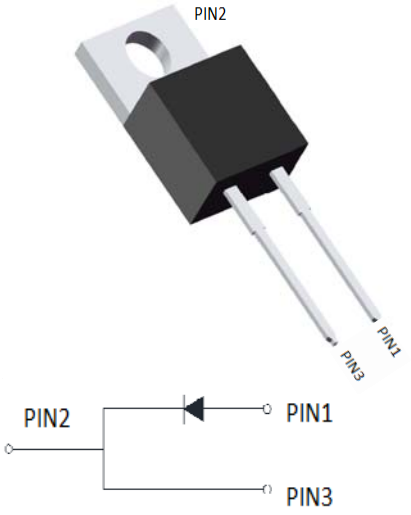
Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package**: TO-220AC
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity**: As marked

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR1045-B1-W5038HF
Device marking code			MBR1045
Repetitive Peak Reverse Voltage	V_{RRM}	V	45
Average Rectified Output Current @60Hz sine wave, R-load, Tc（FIG.1）	I_O	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T_a=25℃	I_{FSM}	A	150
Current Squared Time @1ms≤t<8.3ms Tj=25℃,	I^2t	A^2s	94
Storage Temperature	T_{stg}	℃	-55 ~ +150
Junction Temperature	T_j	℃	-55 ~ +125

■Electrical Characteristics（Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR1045-B1-W5038HF
Maximum instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=10.0A	0.55
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	mA	$V_{RM}=V_{RRM}$ T_a=25℃	0.2
	I_{RRM2}		$V_{RM}=V_{RRM}$ T_a=100℃	50

Note1:Pulse test:300uS pulse widh,1% duty cycle

Note2:Pulse test:pulse widh 40mS

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER		SYMBOL	UNIT	MBR1045-B1-W5038HF
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	℃/W	2.0

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR1045-B1-W5038HF	Approximate 1.8	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:Io -Tc Curve

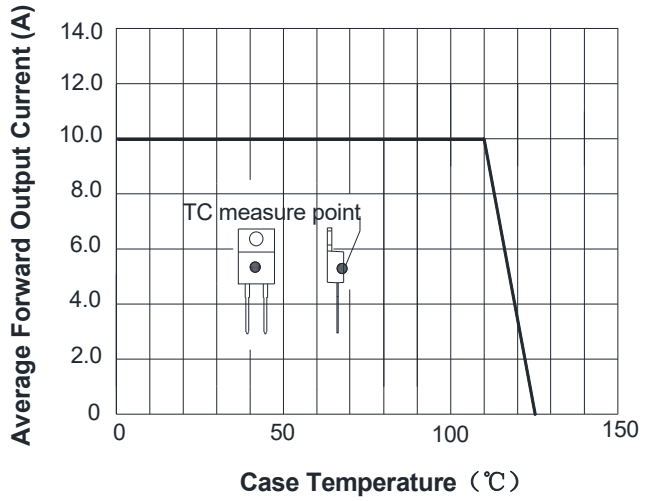


FIG2:Surge Forward Current Capability

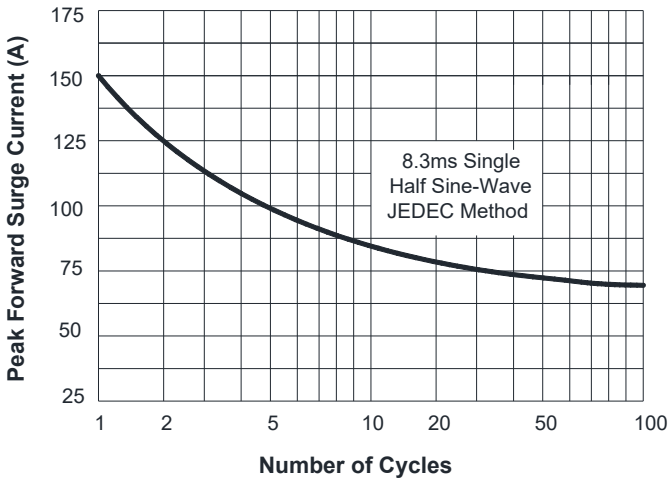


FIG3: Forward Voltage

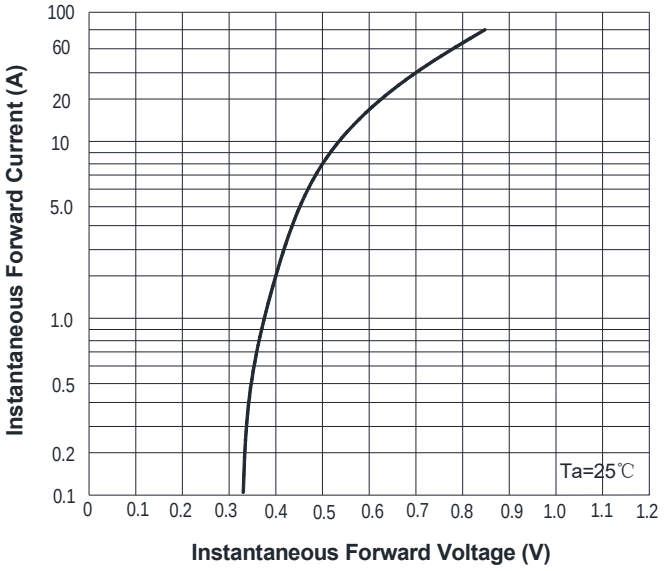
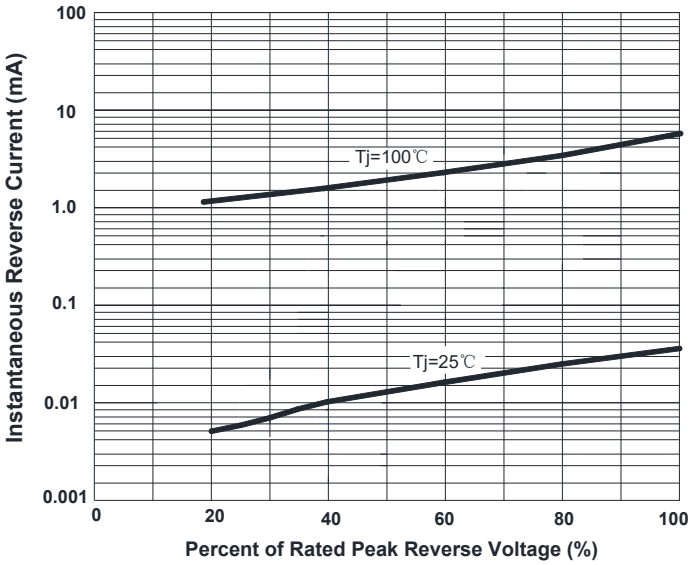
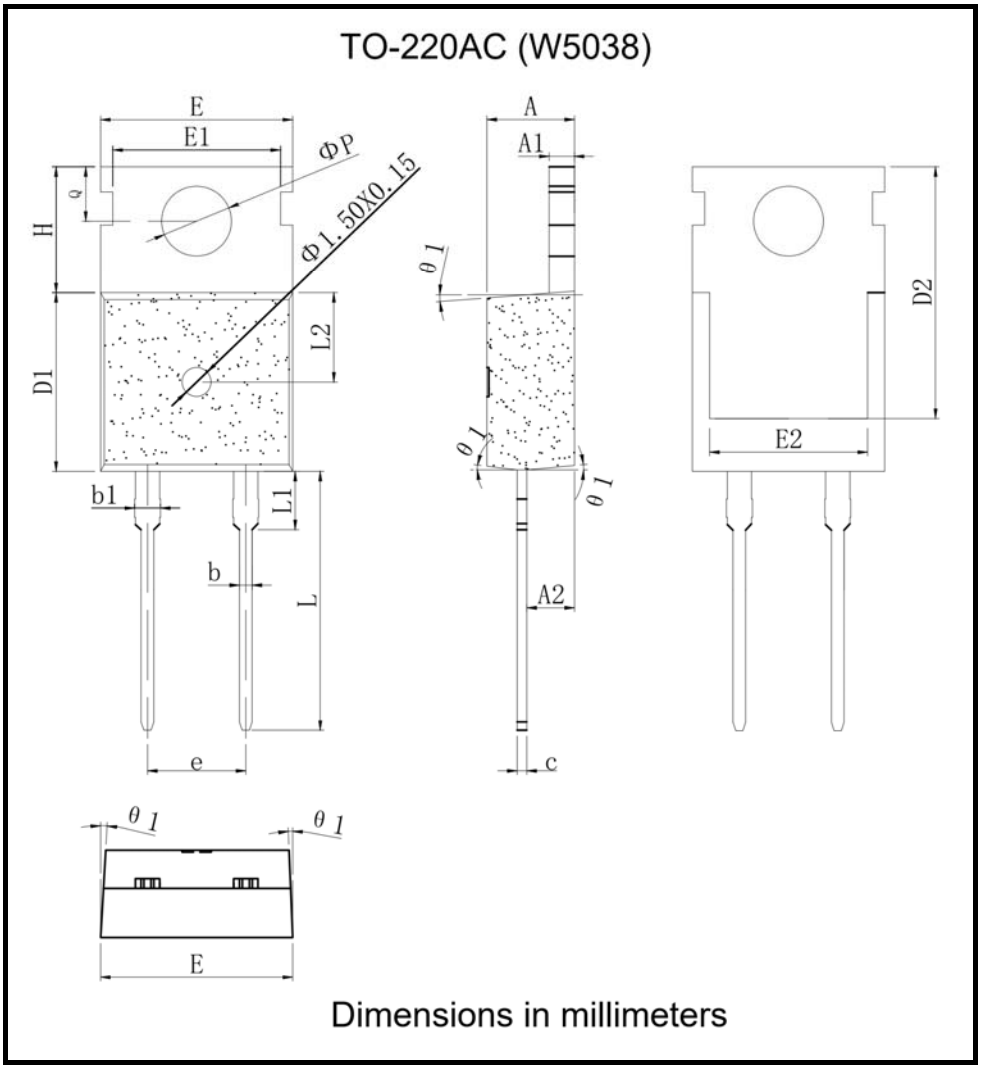


FIG.4: Typical Reverse Characteristics



■Outline Dimensions



TO-220AC (W5038)		
Dim	Min	Max
A	4.40	4.60
A1	1.25	1.35
A2	2.30	2.50
b	0.70	0.90
b1	1.25	1.42
c	0.45	0.55
D1	9.10	9.30
D2	13.07	13.47
D3	15.45	16.15
E	9.80	10.15
E1	8.55	8.85
E2	7.80	8.20
e	5.08 REF	
H	6.40	6.60
L	13.00	13.45
L1	-	3.40
L2	4.50	4.80
ΦP	3.50	3.70
Q	2.70	2.90
θ1	2°	7°

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