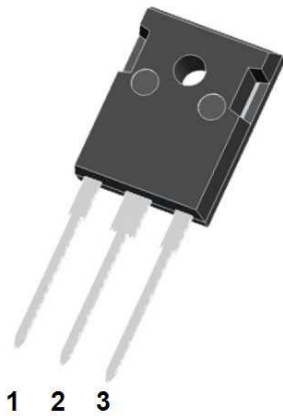


Schottky Diodes



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-247AB
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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR6045PT
Device marking code			MBR6045PT
Repetitive peak reverse voltage	VRRM	V	45
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle, Tc (FIG 1)	IFAV	A	60
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	IFSM	A	300
Current Squared Time @1ms≤t≤8.3ms Tj=25°C	I ² t	A ² s	373
Storage temperature	T _{STG}	°C	-55 ~+150
Junction temperature	T _J	°C	-55 ~+150

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V _F	V	I _{FM} =30.0A T _j =25°C	-	0.62	0.67
			I _{FM} =30.0A T _j =125°C			0.56
DC reverse current at rated DC blocking voltage per diode,@ VRM=VRRM	I _{RRM}	mA	V _{RM} =V _{RRM} T _j =25°C	-	-	0.2
			V _{RM} =V _{RRM} T _j =125°C	-	-	50
Junction capacitance	C _j	pF	1MHZ and Applied Reverse Voltage of 4 V.D.C.	600	935	1300

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

Note2:Pulse test:pulse width 40mS



MBR6045PT

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR6045PT
Thermal Resistance	Between junction and ambient	R _{θJ-A}	°C/W	50.0
	Between junction and case	R _{θJ-C}	°C/W	1.0

■ Characteristics(Typical)

FIG1: I_o -T_c Curve

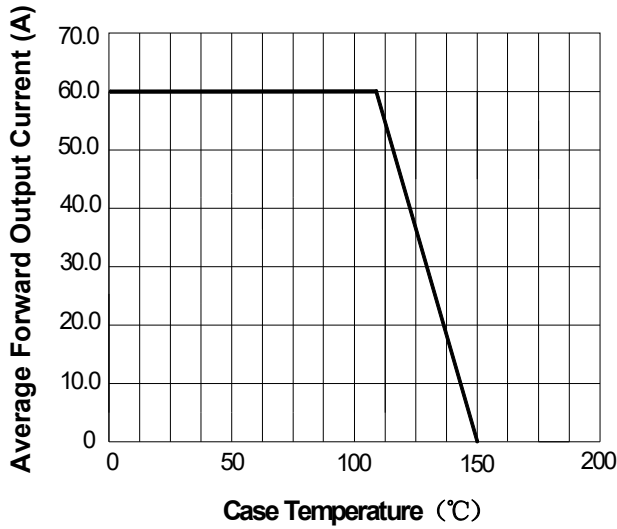


FIG2: Surge Forward Current Capability

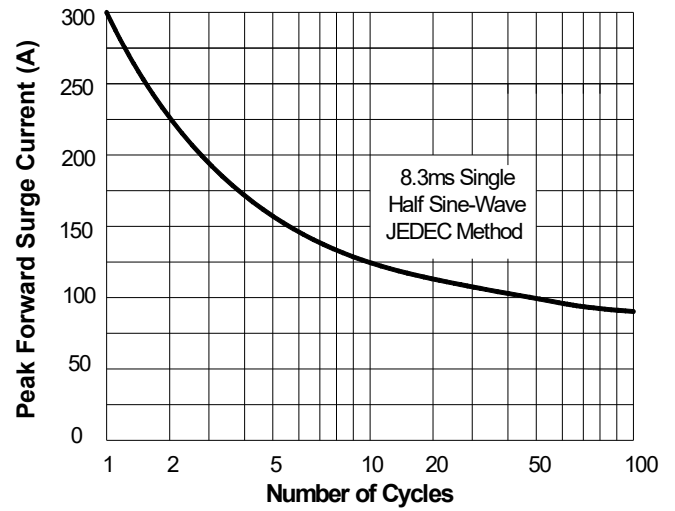


FIG3: Forward Voltage

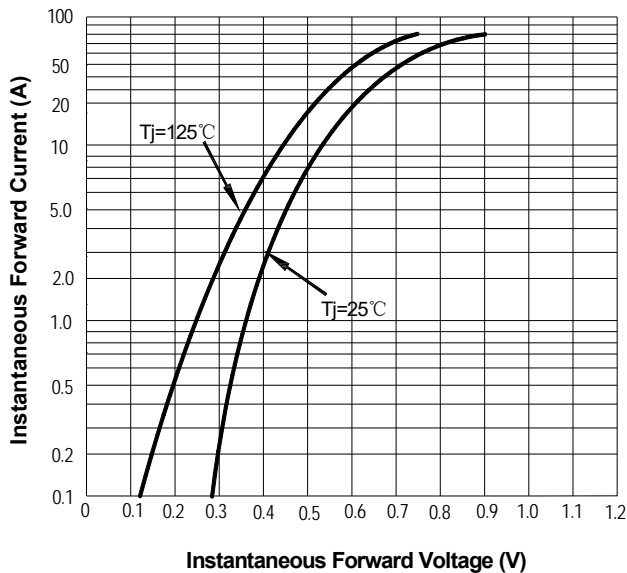
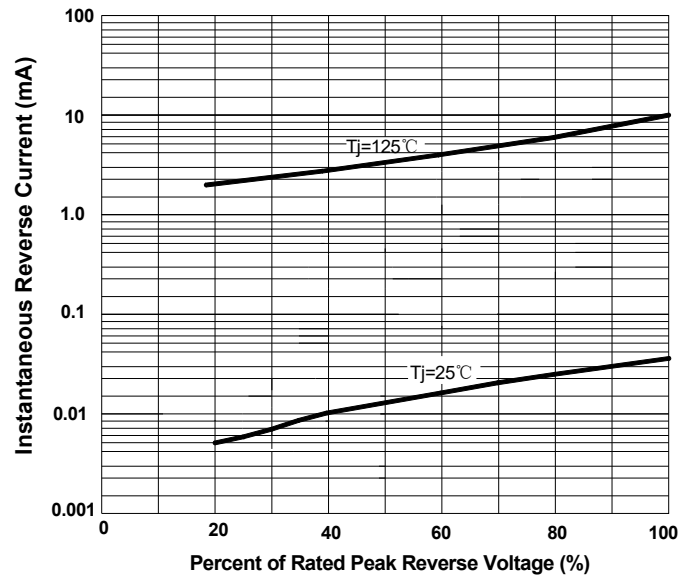


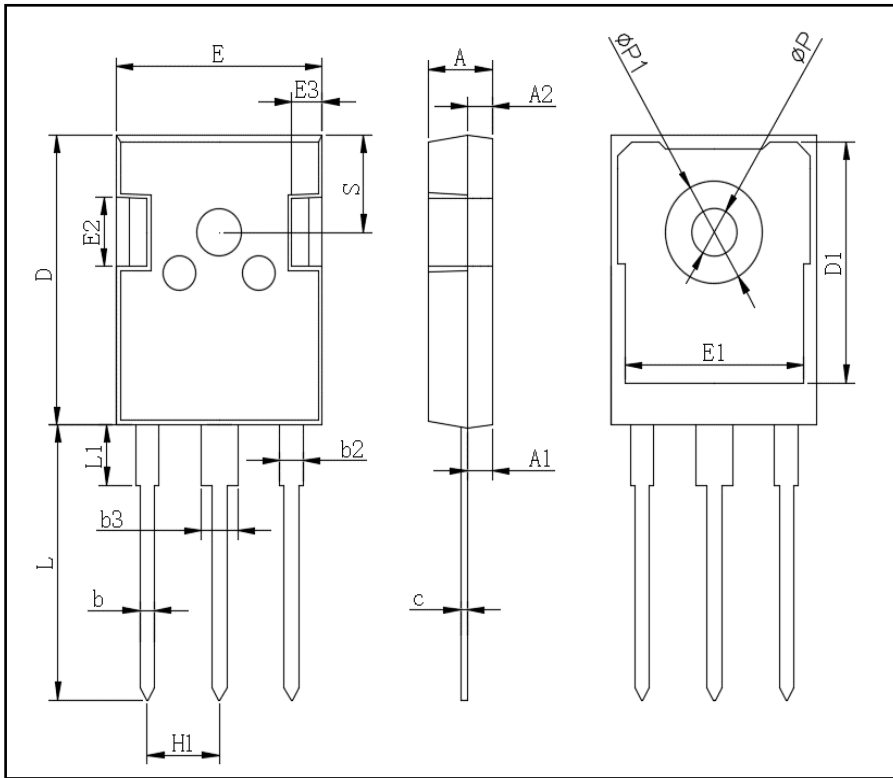
FIG4: Instantaneous Reverse Characteristics





MBR6045PT

■ Outline Dimensions



TO-247AB		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.0	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.0	13.6
E2	4.80	5.20
E3	2.30	2.70
L	19.62	20.22
L1	-	4.30
ΦP	3.40	3.80
$\Phi P1$	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20



MBR6045PT

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