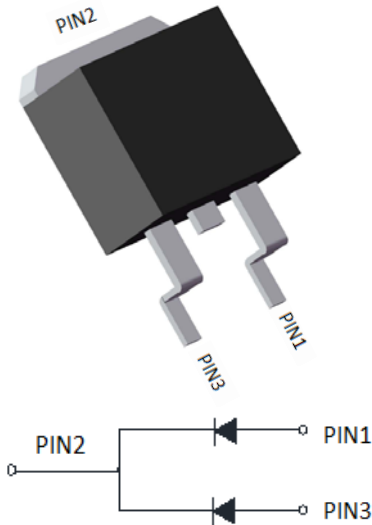


## Schottky Diodes



### Features

- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

### Typical Applications

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

### Mechanical Data

- **Package:** TO-263  
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 (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRBL40100CT-F2-W5094HF
Device marking code			MBRBL40100CT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	100
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> =121°C	I <sub>O</sub>	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	300
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	373
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

### ■Electrical Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	V <sub>FM</sub>	V	I <sub>FM</sub> =20.0A T <sub>j</sub> =25°C	0.5	0.65	0.71
			I <sub>FM</sub> =20.0A T <sub>j</sub> =125°C	-	0.61	0.65
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	mA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =25°C	-	-	0.1
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =100°C	-	-	20

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

Note2:Pulse test:pulse width 40mS



# MBRBL40100CT-F2-W5094HF

## ■ Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBRBL40100CT-F2-W5094HF
Thermal Resistance	Between junction and case	R <sub>θJ-c</sub>	°CW	2.0

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

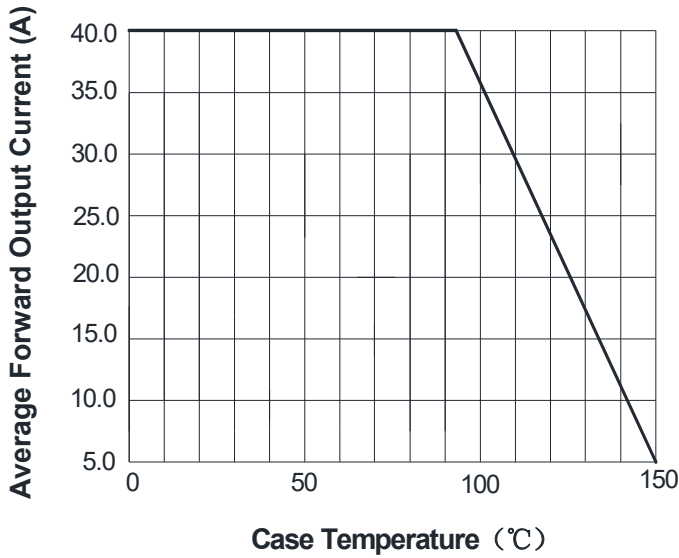


FIG2: Surge Forward Current Capability

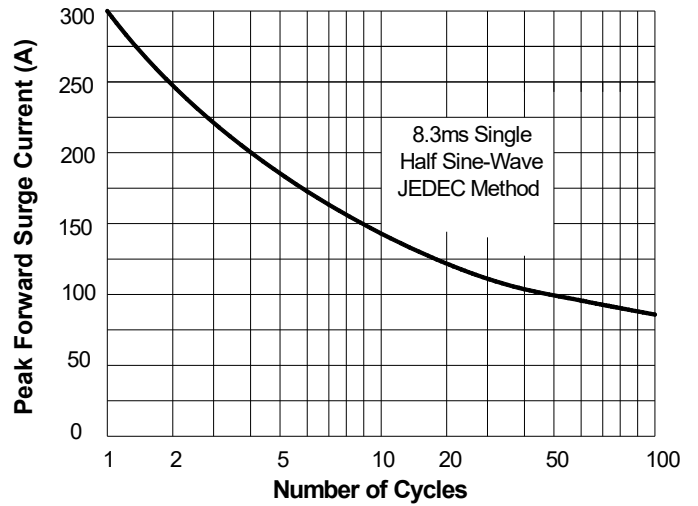


FIG3: Forward Voltage

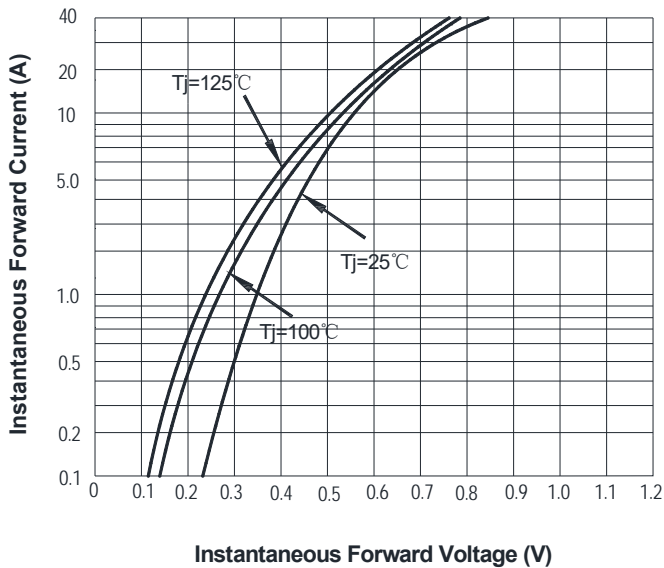
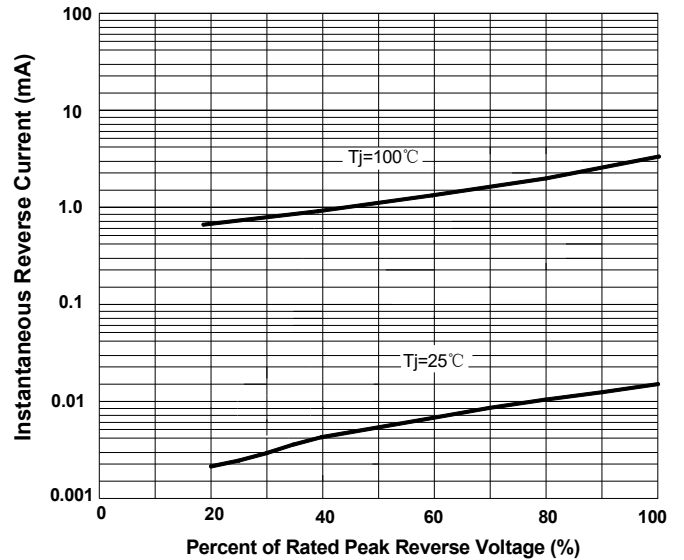


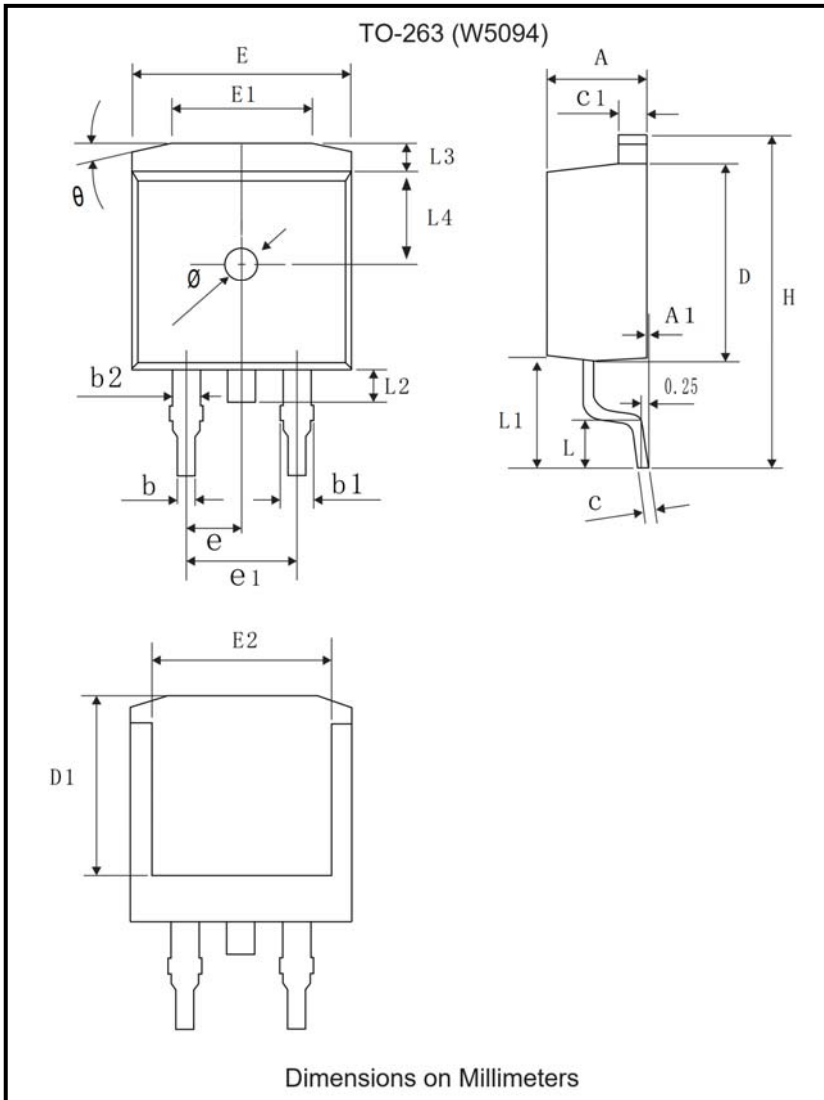
FIG.4: Instantaneous Reverse Characteristics





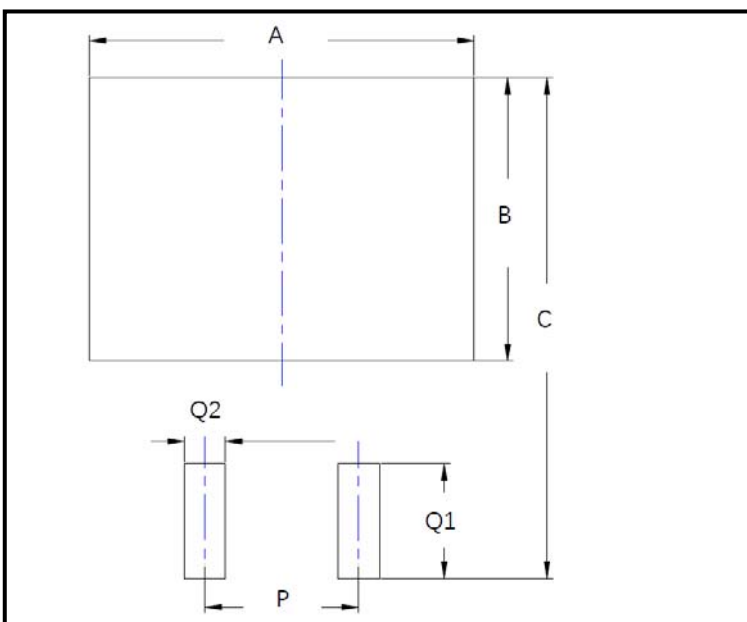
# MBRBL40100CT-F2-W5094HF

## ■ Outline Dimensions



TO-263		
Dim	Min	Max
A	4.30	4.70
A1	0.00	0.25
b	0.70	0.90
B1	1.17	1.37
B2	1.17	1.37
C	0.40	0.60
C1	1.25	1.35
D	9.00	9.20
D1	8.00	8.20
H	14.9	15.5
E	9.80	10.2
E1	6.30	6.50
E2	7.90	8.10
e1	4.93	5.23
L	1.85	2.45
L1	4.45	4.85
L2	1.30	1.70
L3	1.15	1.35
L4	4.50	4.60
∅	1.5 REF	
e	2.54 BSC	
θ	13° TYP	

## ■ Suggested Pad Layout



Dim	Millimeters
A	12.7
B	9.4
C	16.6
P	5.08
Q1	3.8
Q2	1.35



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