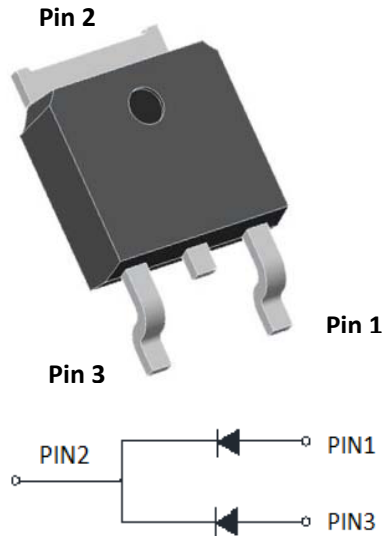




## Schottky Diodes



### 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

### Typical Applications

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

### Mechanical Data

- **Package:** TO-252  
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>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR20100CDS	MBR20150CDS	MBR20200CDS
Device marking code			MBR20100CDS	MBR20150CDS	MBR20200CDS
Repetitive Peak Reverse Voltage	VRRM	V	100	150	200
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>a</sub> =25°C	I <sub>O</sub>	A	20		
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	IFSM	A	130		
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	70		
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +175		
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +175		

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR20100CDS	MBR20150CDS	MBR20200CDS
Maximum instantaneous forward voltage drop per diode	VFM	V	IFM=10.0A	0.85	0.9	0.95
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>a</sub> =25°C	0.1		
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>a</sub> =125°C	20		

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

Note2:Pulse test:pulse width 40mS



# MBR20100CDS THRU MBR20200CDS-F1-W5093HF

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

PARAMETER		SYMBOL	UNIT	MBR20100CDS	MBR20150CDS	MBR20200CDS
Thermal Resistance	Between junction and case	R $\theta$ J-C	°C/W	5.0		

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR20100CDS THRU MBR20200CDS	Approximate 0.32	2500	2500	25000	Reel

## ■ Characteristics (Typical)

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

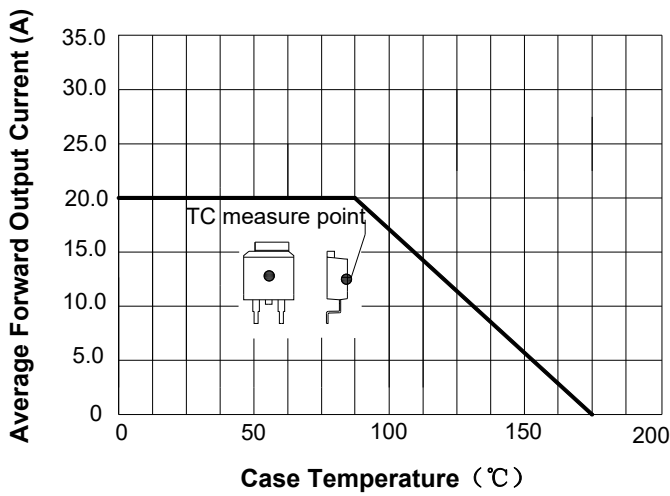


FIG2: Surge Forward Current Capability

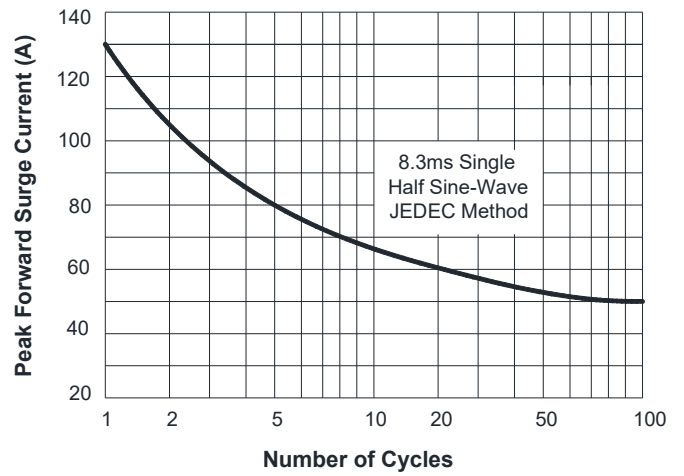


FIG3: Forward Voltage

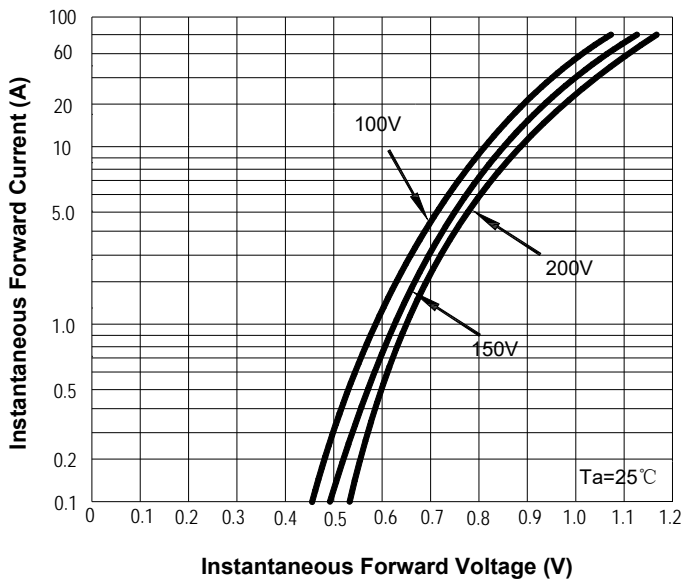
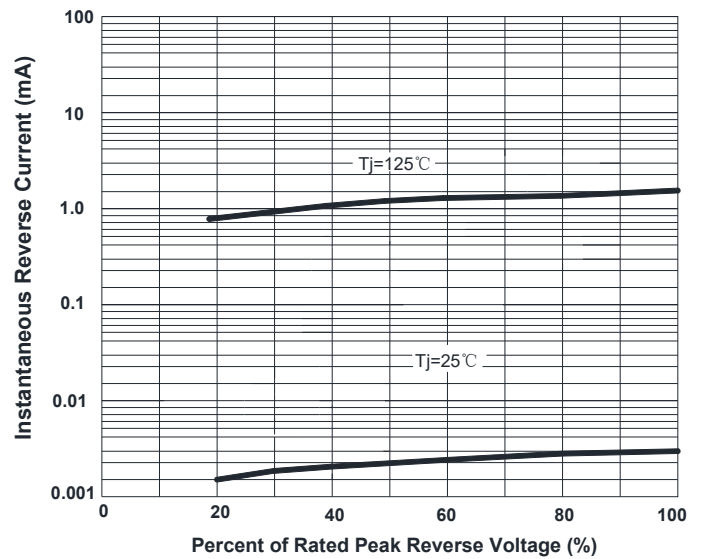
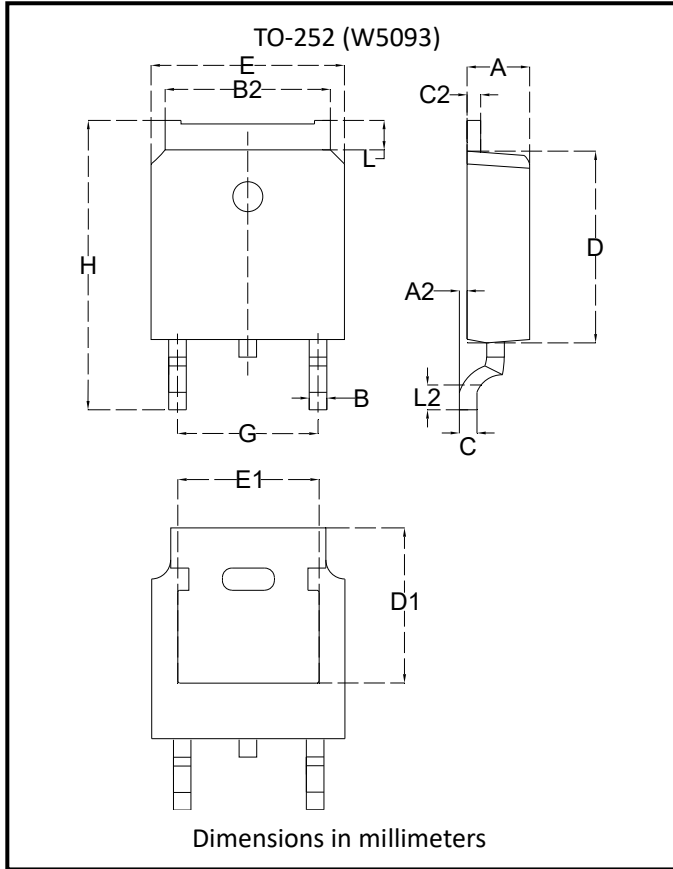


FIG4: Instantaneous Reverse Characteristics



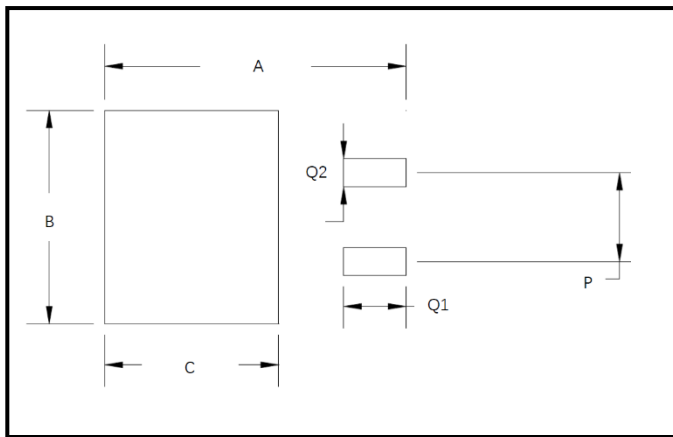


■ **Outline Dimensions**



TO-252 (W5093)		
Dim	Min	Max
A	2.20	2.40
A2	-	0.10
B	0.66	0.86
B2	5.10	5.46
C	0.46	0.58
C2	0.44	0.58
D	5.90	6.300
D1	5.30 REF	
E	6.40	6.80
E1	4.63	-
G	4.372	4.772
H	9.80	10.40
L	1.09	1.21
L2	1.35	1.65

■ **Suggested Pad Layout**



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52



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