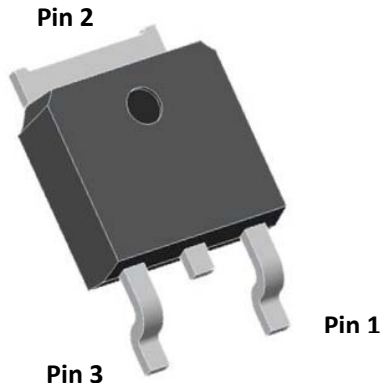


## Schottky Diodes



### 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
- Part no. with suffix "Q" means AEC-Q101 qualified

### Typical Applications

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

### Mechanical Data

- **Package:** TO-252  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen free
- **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	MBR10150CDQ
Device marking code			MBR10150CD
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	150
Average Rectified Output Current Per Diode (T <sub>c</sub> =130°C) Total Device	I <sub>F(AV)</sub>	A	5 10
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	150
Current Squared Time @1ms≤t≤8.3ms T <sub>J</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s	93
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	Typ	Max	
Instantaneous forward voltage per diode	V <sub>F</sub>	V	I <sub>F</sub> =5A      T <sub>J</sub> =25°C	0.80	0.85	
			I <sub>F</sub> =5A      T <sub>J</sub> =125°C	0.67	0.75	
Typical junction capacitance per diode	C <sub>J</sub>	pF	V <sub>R</sub> =4V, f=1 MHz	125	-	
Instantaneous reverse current per diode	I <sub>R</sub>	mA	V <sub>R</sub> =150V	T <sub>J</sub> =25°C	-	0.05
				T <sub>J</sub> =125°C	-	1

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

PARAMETER	SYMBOL	UNIT	MBR10150CDQ	
Typical thermal resistance per diode	Between junction and case	R <sub>θJ-C</sub>	°C/W	5



# MBR10150CDQ

## ■ Characteristics (Typical)

Fig.1: Forward Current Derating Curve

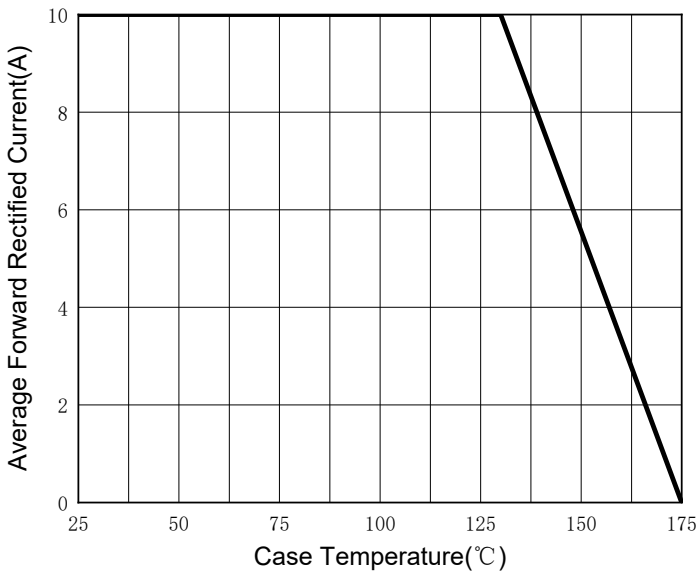


Fig.2: Forward Surge Current Capability(Per Diode)

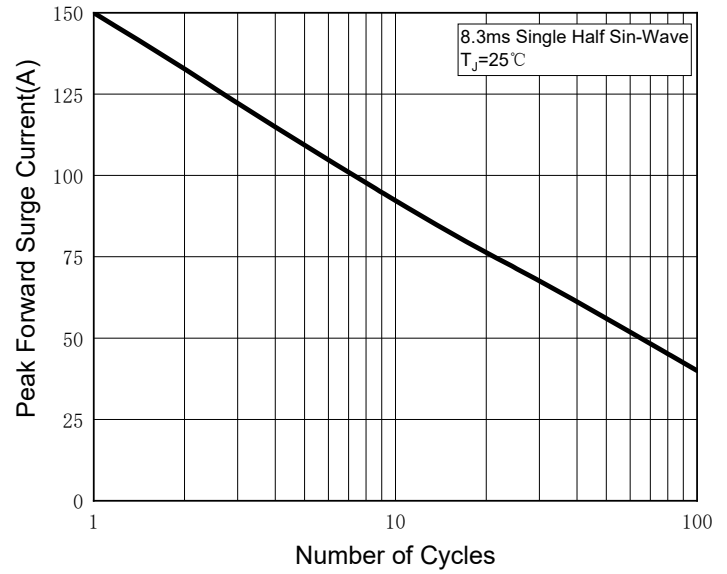


Fig.3: Typical Instantaneous Forward Characteristics(Per Diode)

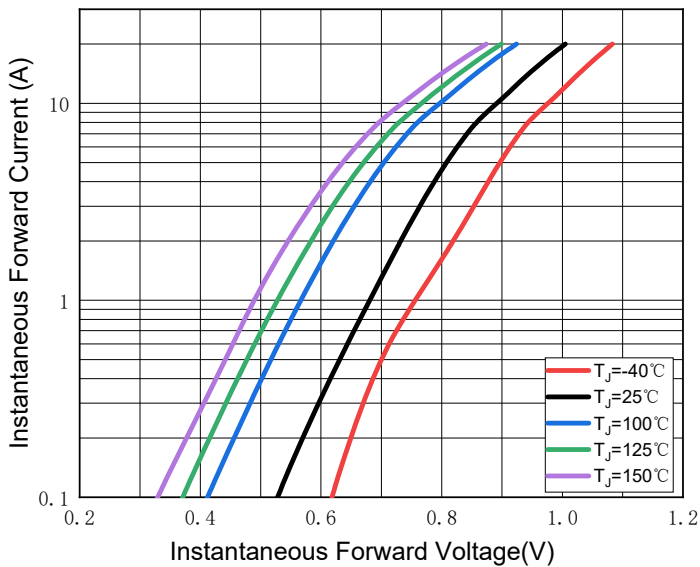


Fig.4: Typical Reverse Leakage Characteristics(Per Diode)

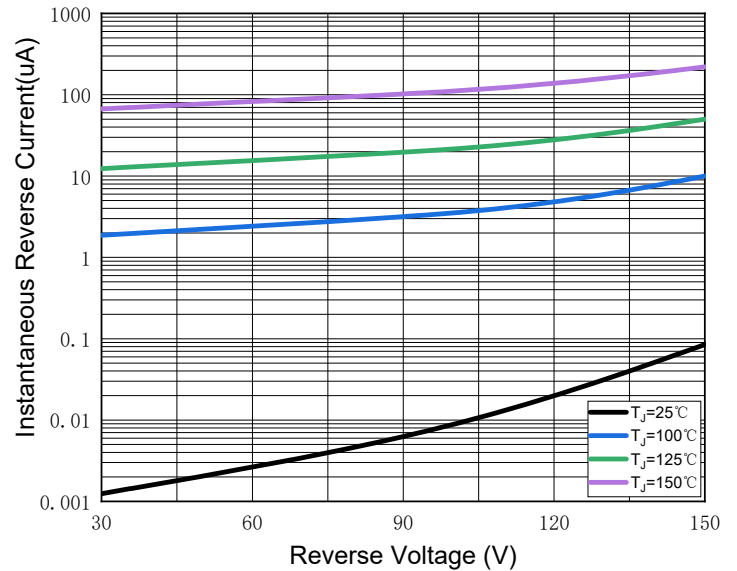
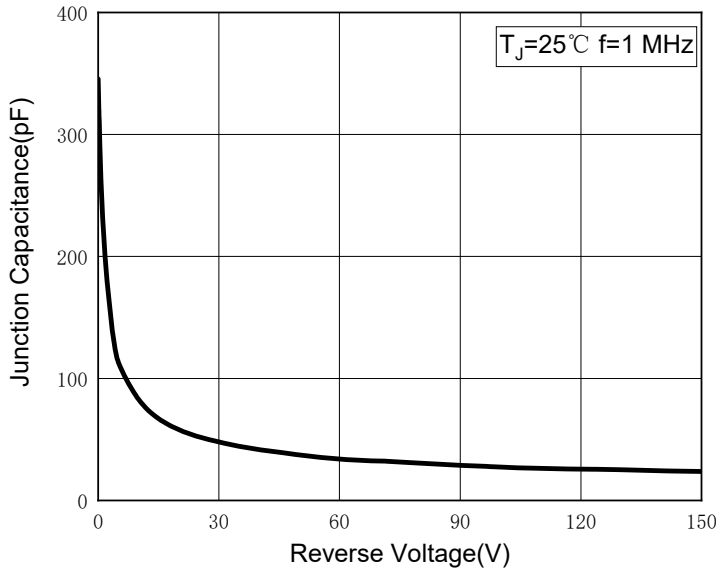


Fig.5: Typical Junction Capacitance(Per Diode)



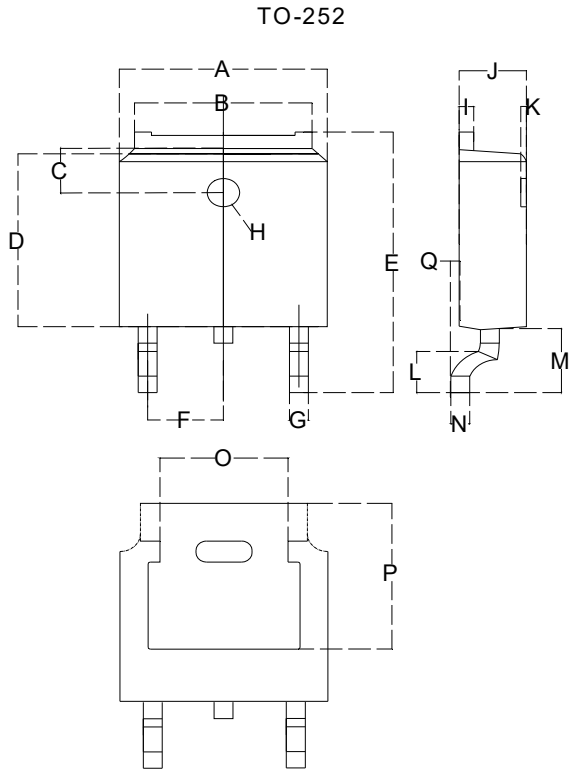


# MBR10150CDQ

## Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR10150CDQ	Approximate 0.32	2500	2500	25000	Reel

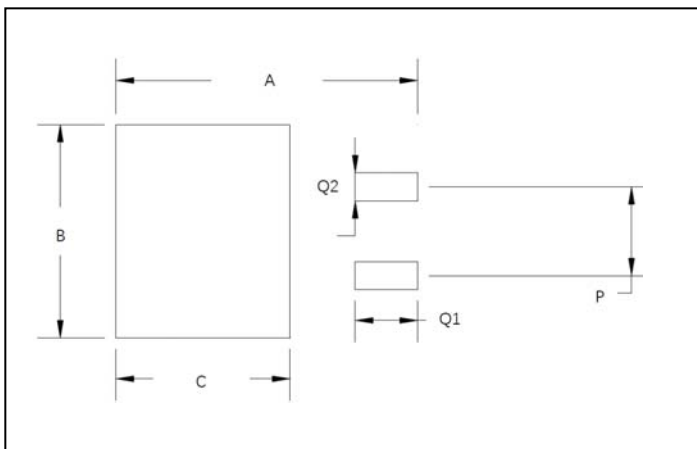
## Outline Dimensions



TO-252		
Dim	Min	Max
A	6.500	6.700
B	5.100	5.460
C	1.400	1.800
D	6.000	6.200
E	10.000	10.400
F	2.166	2.366
G	0.660	0.860
H	$\Phi 1.050$	$\Phi 1.350$
I	0.460	0.580
J	2.200	2.400
K	0	0.300
L	0.890	2.290
M	2.730	3.080
N	0.430	0.580
O	4.20	4.95
P	5.15	5.45
Q	0	0.2

Dimensions in millimeters

## Suggested Pad Layout



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



## MBR10150CDQ

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ISSUE	REVISION	DATE
1.0	Add Datasheet	14-Jun-23