

## TO-263-2L Surface Mount Schottky Barrier Rectifier

### ● Features

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop
- Metal Silicon Junction, Majority Carrier Conduction

**Reverse Voltage**  
150 V  
**Forward Current**  
10 Ampere

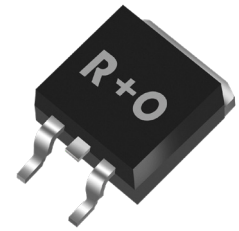
### ● Applications

For use in low voltage high frequency inverters, free wheeling, DC/DC converters, and polarity protection applications.

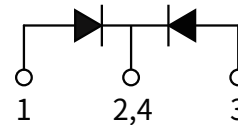
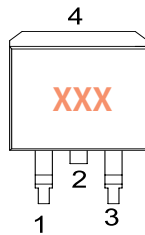
### ● Mechanical Data

- Case: TO-263-2L  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208

TO-263-2L



### ● Function Diagram



### ● Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRB10150CT
Device marking code			MBRB10150CT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	V	150
Maximum RMS Voltage	$V_{RMS}$	V	105
Maximum DC blocking Voltage	$V_{DC}$	V	150
Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	10
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	$I_{FSM}$	A	120
Storage temperature	$T_{stg}$	°C	-55 ~+150
Junction temperature	$T_j$	°C	150
Thermal resistance from junction to case	$R_{\theta JC}$	°C /W	2.0
Thermal resistance from junction to ambient	$R_{\theta JA}$		62.5

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	MIN	TYP	MAX	
Maximum instantaneous forward voltage	I <sub>F</sub> =3A	T <sub>J</sub> =25°C	V <sub>F</sub>	V	—	0.78	—
		T <sub>J</sub> =125°C			—	0.64	—
	I <sub>F</sub> =5A	T <sub>J</sub> =25°C			—	0.80	0.87
		T <sub>J</sub> =125°C			—	0.69	—
Maximum DC reverse current at rated DC blocking voltage	V <sub>R</sub> =V <sub>DC</sub> , T <sub>J</sub> =25°C	I <sub>R1</sub>	uA	—	1	100	
	V <sub>R</sub> =V <sub>DC</sub> , T <sub>J</sub> =125°C	I <sub>R2</sub>	mA	—	1	—	

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

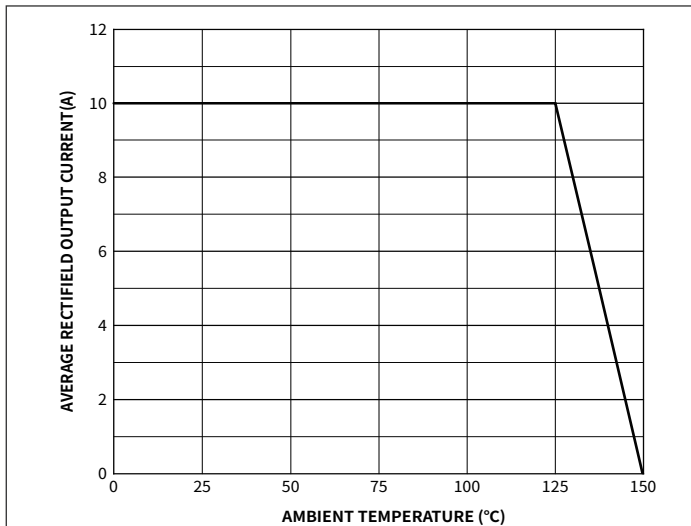


Fig.1 Maximum Non-Repetitive Peak Forward Surge Current

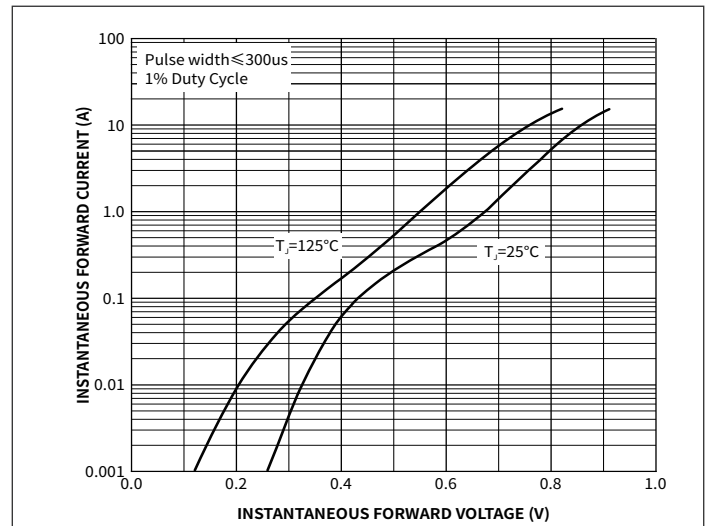


Fig.2 Typical Forward Voltage

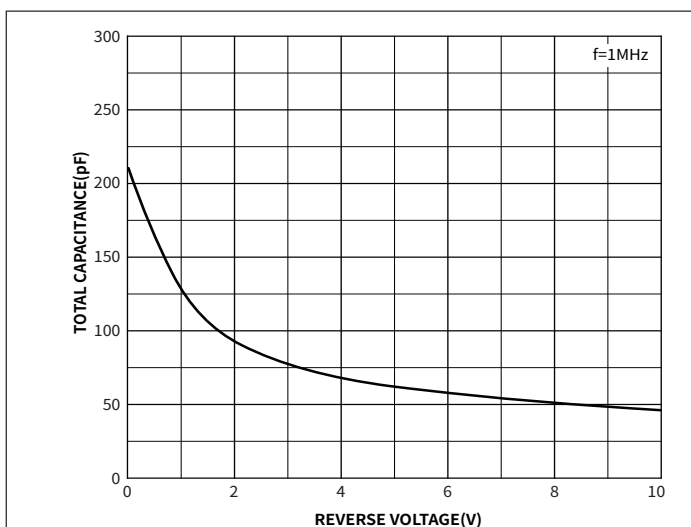


Fig.3 Typical Junction Capacitance

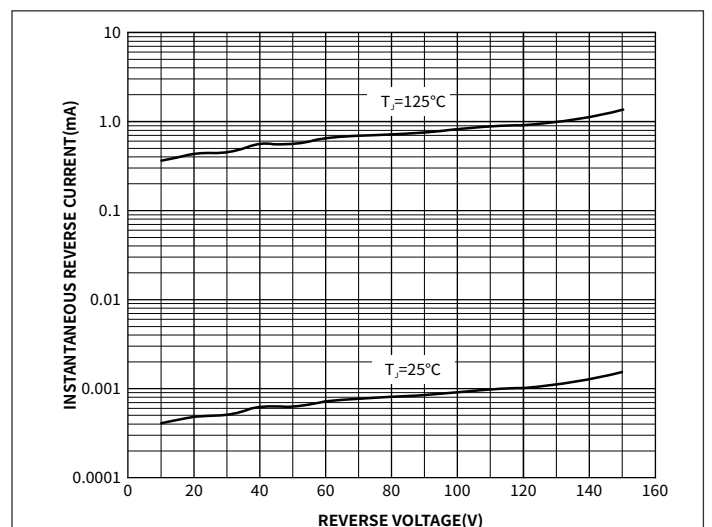


Fig.4 Typical Reverse Characteristics

# MBRB10150CT

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
TO-263-2L	R3	1.598	800	800	8000	13"

## ● Package Outline Dimensions (TO-263-2L)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.47	4.67	0.176	0.184
A1	-	0.2	-	0.008
A2	1.17	1.37	0.046	0.054
A3	2.5	2.7	0.098	0.106
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.31	0.53	0.012	0.021
D	8.50	8.90	0.335	0.350
D1	7.25REF		0.285 REF	
E	10.01	10.31	0.394	0.406
E1	7.85REF		0.309 REF	
e	2.54TYP		0.1TYP	
e1	4.980	5.18	0.196	0.204
H	14.94	15.5	0.588	0.610
H1	1.12	1.42	0.044	0.056
L	2.34	2.74	0.092	0.108
L1	4.95	5.45	0.195	0.215
L2	1.3	1.7	0.051	0.067
θ	-	5°	-	5°
θ1	3°	9°	3°	9°

## ● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
a	16.60	-	0.654	-
b	5.08	-	0.200	-
X	-	12.70	-	0.500
X1	-	1.35	-	0.053
Y	-	9.40	-	0.370
Y1	-	3.80	-	0.150