

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
100 V
Forward Current
20 Ampere

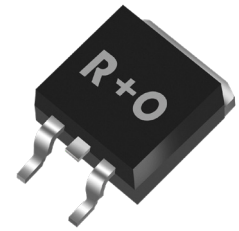
● Applications

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

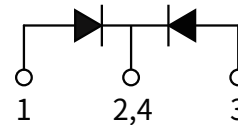
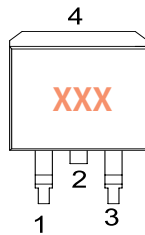
● Mechanical Data

- 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	MBRB20100CT
Device marking code			MBRB20100CT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	100
Maximum RMS Voltage	V_{RMS}	V	70
Maximum DC blocking Voltage	V_{DC}	V	100
Maximum Average Forward Rectified Current @60Hz sine wave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	20
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	150
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 _F =5A	T _J =25°C	V _F	V	—	0.72	—
		T _J =125°C			—	0.60	—
	I _F =10A	T _J =25°C			—	0.82	0.85
		T _J =125°C			—	0.68	—
Maximum DC reverse current at rated DC blocking voltage	V _R =V _{DC} , T _J =25°C	I _{R1}	uA	—	2	100	
	V _R =V _{DC} , T _J =125°C	I _{R2}	mA	—	2	—	

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

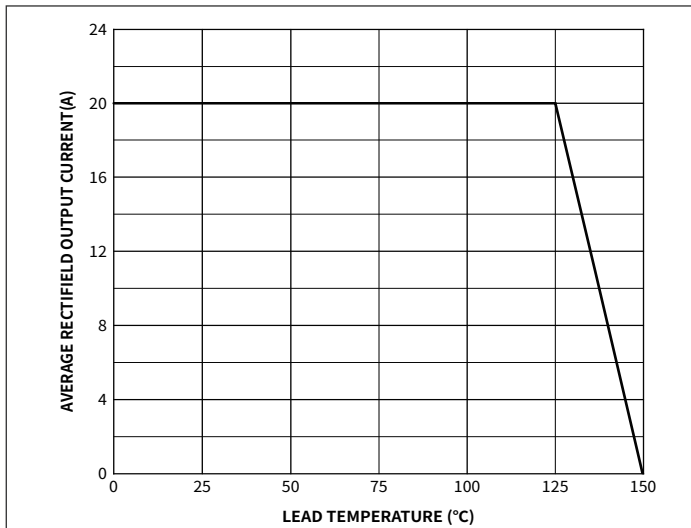


Fig.1 Maximum Non-Repetitive Peak Forward Surge Current

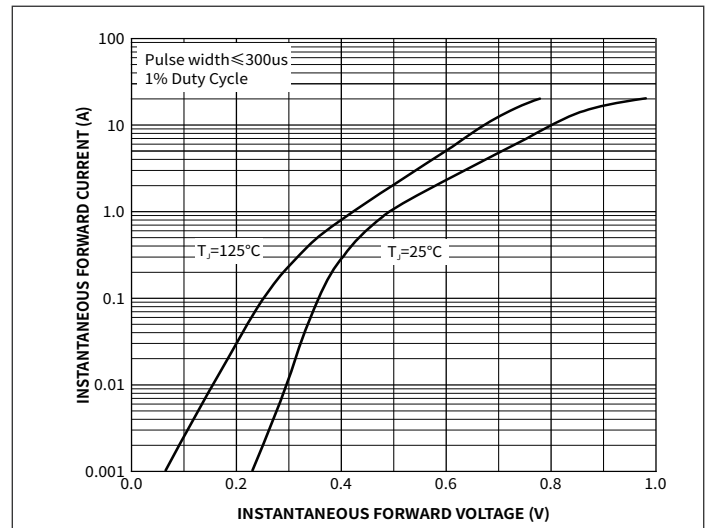


Fig.2 Typical Forward Voltage

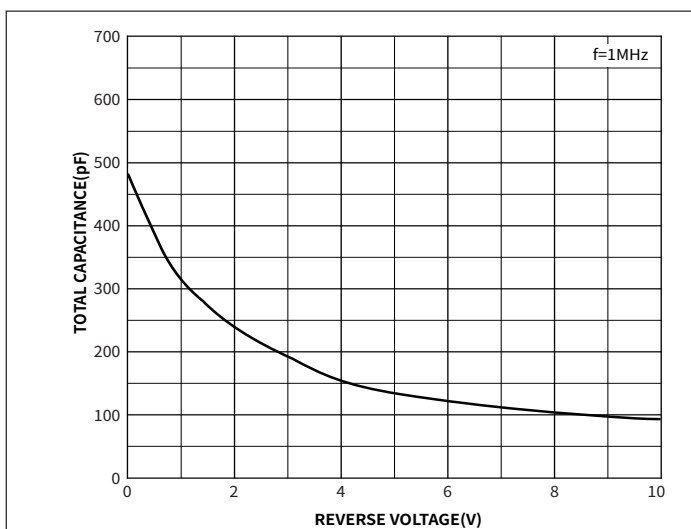


Fig.3 Typical Junction Capacitance

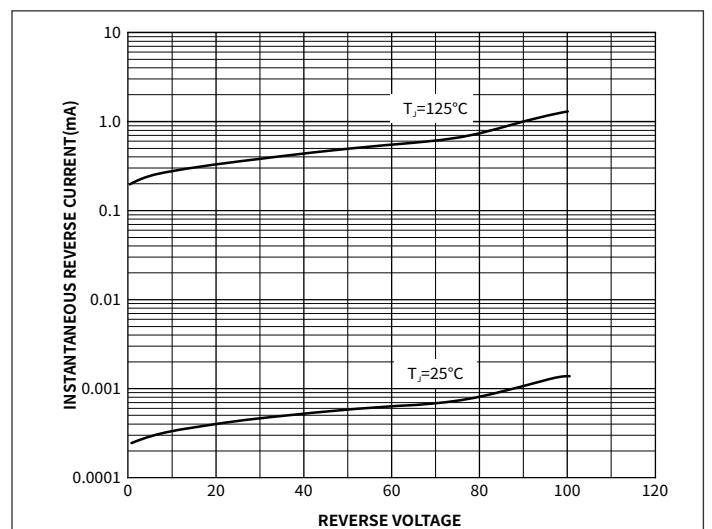


Fig.4 Typical Reverse Characteristics

MBRB20100CT

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