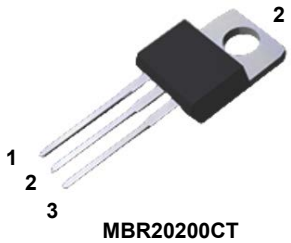
GOOD-ARK SEMICONDUCTOR

MBR20200CT/MBRF20200CT

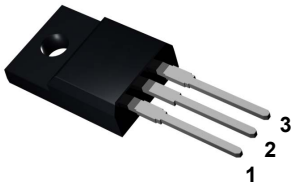
Schottky Barrier Rectifiers
Reverse Voltage 200V Forward Current 20A

Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



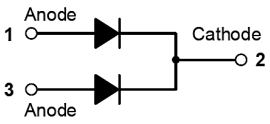
MBR20200CT
TO-220-AB



MBRF20200CT
ITO-220-AB

Applications

- SMPS
- Adapter
- Server power



Schematic Diagram

Mechanical Data

- Case: Epoxy, molded
- Finish: All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C Max. for 10 sec

Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	MBR20200CT	MBRF20200CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200		V
Maximum RMS Voltage	V_{RMS}	140		V
Maximum DC Blocking Voltage	V_{DC}	200		V
Maximum Average Forward Current	$I_{F(AV)}$	20		A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load per Diode	I_{FSM}	150		A
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5		°C/W
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	4	°C/W
Operating Junction Temperature Range	T_J	-55 to +150		°C
Storage Temperature Range	T_{STG}	-55 to +150		°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	MBR20200CT		MBRF20200CT		Unit
			Typ	Max	Typ	Max	
Forward Drop Voltage[1]	V_F	I_F=10A, T_J=25°C	0.85	0.95	0.85	0.95	V
		I_F=10A, T_J=125°C	-	0.85	0.72	0.85	
		I_F=20A, T_J=25°C	-	-	-	-	
		I_F=20A, T_J=125°C	-	-	-	-	
Reverse Leakage Current @V_R[2]	I_R	T_J=25°C	-	50	-	50	uA
		T_J=100°C	-	5	-	5	mA

Notes:
1. Pulse test with PW=0.3ms, duty cycle=2%.
2. Pulse test with PW=30ms.

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Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

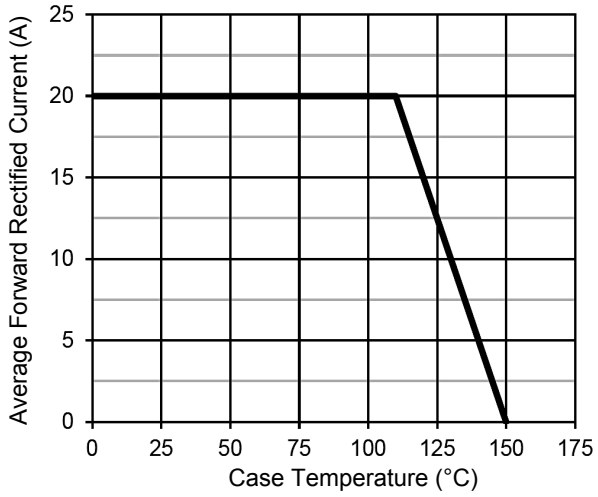

Figure 1. Forward Current Derating Curve

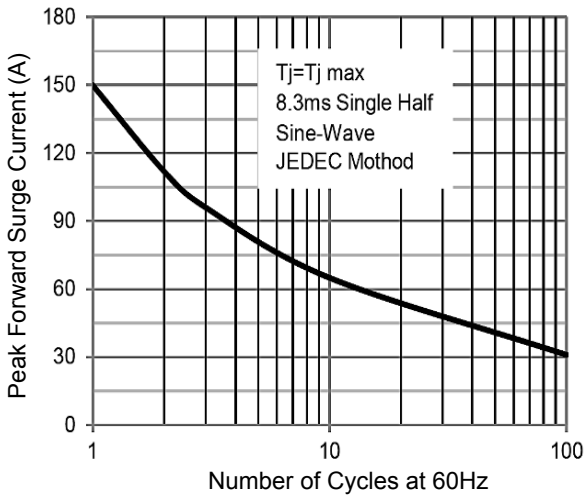

Figure 2. Maximum Non-Repetitive Surge Current

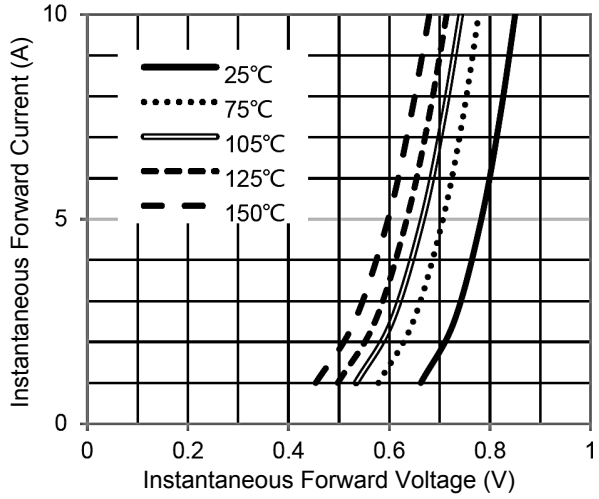

Figure 3. Typical Instantaneous Forward Voltage Characteristics

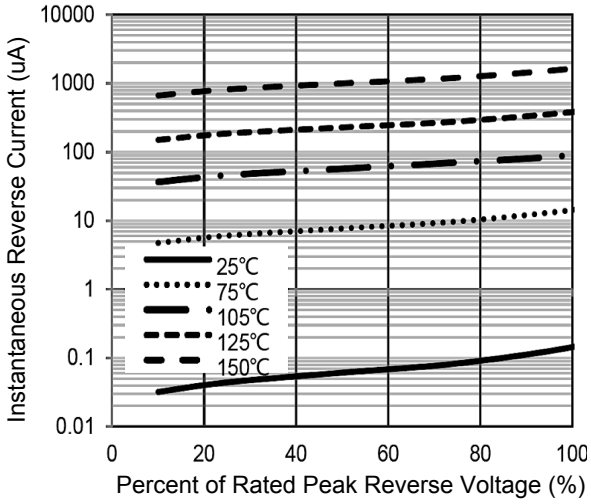

Figure 4. Typical Reverse Current Characteristics

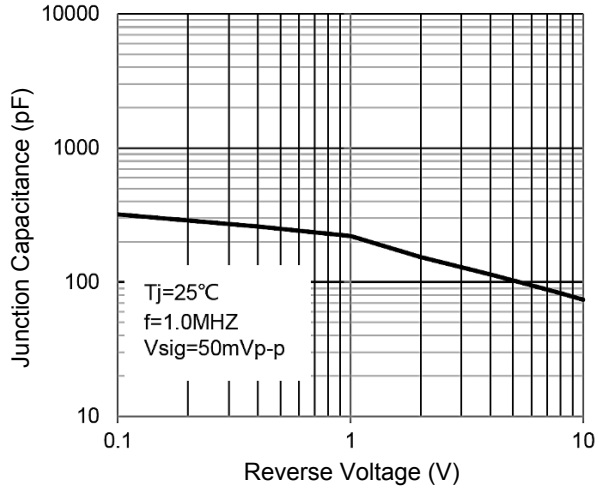

Figure 5. Typical Junction Capacitance

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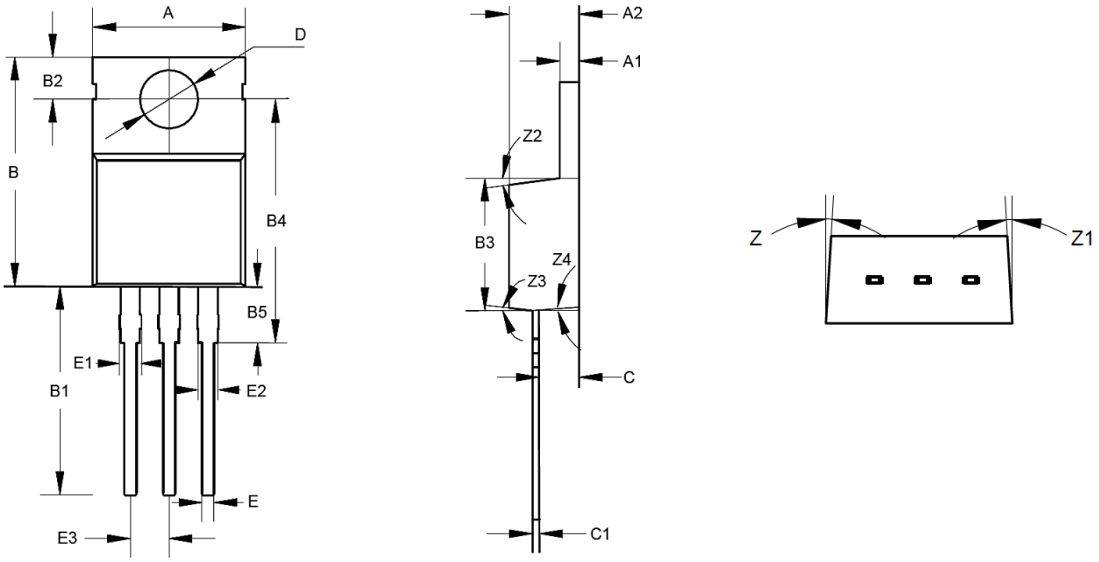
Package Outline Dimensions (TO-220-AB)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.80	10.20	0.386	0.402
A1	1.17	1.37	0.046	0.054
A2	4.50	4.70	0.177	0.185
B	14.50	15.50	0.571	0.610
B1	13.20	14.20	0.520	0.559
B2	2.65	2.85	0.104	0.112
B3	8.50	8.90	0.335	0.350
B4	15.50	16.50	0.610	0.650
B5	3.40	4.00	0.134	0.157
C	2.30	2.90	0.091	0.114
C1	0.28	0.48	0.011	0.019
D	3.70	3.90	0.146	0.154
E	0.68	0.88	0.027	0.035
E1	1.20	1.60	0.047	0.063
E2	1.17	1.37	0.046	0.054
E3	2.44	2.64	0.096	0.104
Z	3° Nom		3° Nom	
Z1	3° Nom		3° Nom	
Z2	7° Nom		7° Nom	
Z3	7° Nom		7° Nom	
Z4	1.5° Nom		1.5° Nom	

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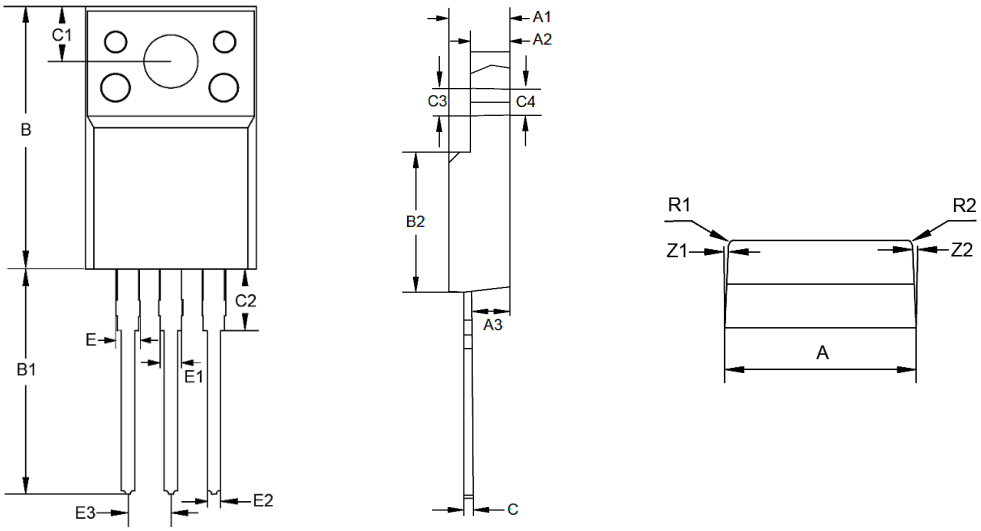
Package Outline Dimensions (ITO-220-AB)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.90	10.30	0.390	0.406
A1	4.60	4.80	0.181	0.189
A2	2.44	2.64	0.096	0.104
A3	2.25	2.65	0.089	0.104
B	15.50	16.10	0.610	0.634
B1	13.25	13.85	0.522	0.545
B2	9.00	9.40	0.354	0.370
C	0.50	0.70	0.020	0.028
C1	3.10	3.50	0.122	0.138
C2	3.00	3.60	0.118	0.142
C3	3.00	3.40	0.118	0.134
C4	3.00	-	0.118	-
E	1.15	1.55	0.045	0.061
E1	1.17	1.37	0.046	0.054
E2	0.70	0.90	0.028	0.035
E3	2.44	2.64	0.096	0.104
R1	0.3 Nom		0.012 Nom	
R2	0.3 Nom		0.012 Nom	
Z1	3° Nom		3° Nom	
Z2	3° Nom		3° Nom	

Order Information

Device	Package	Marking	Carrier	Quantity
MBR20200CT	TO-220-AB	MBR20200CT	Tube	50 Pcs / Tube
MBRF20200CT	ITO-220-AB	MBRF20200CT	Tube	50 Pcs / Tube

For more information, please contact us at: inquiry@goodarksemi.com