SANGDEST
MICROELECTRONICS

MBRD10200CT

Technical Data
Data Sheet N0120, Rev. -

Green Products

MBRD10200CT SCHOTTKY RECTIFIER

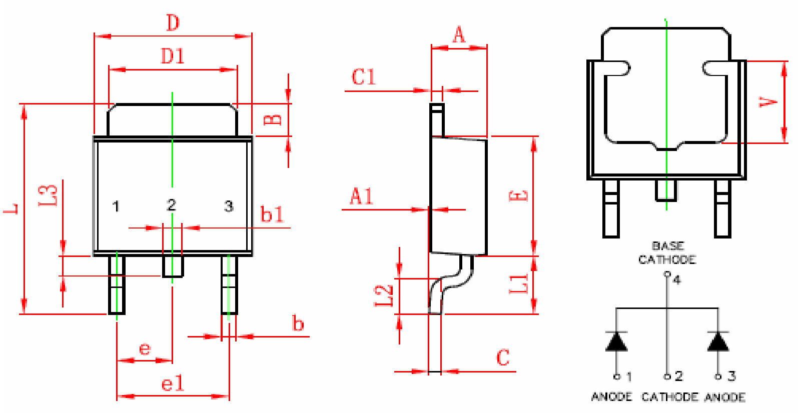
Applications:

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

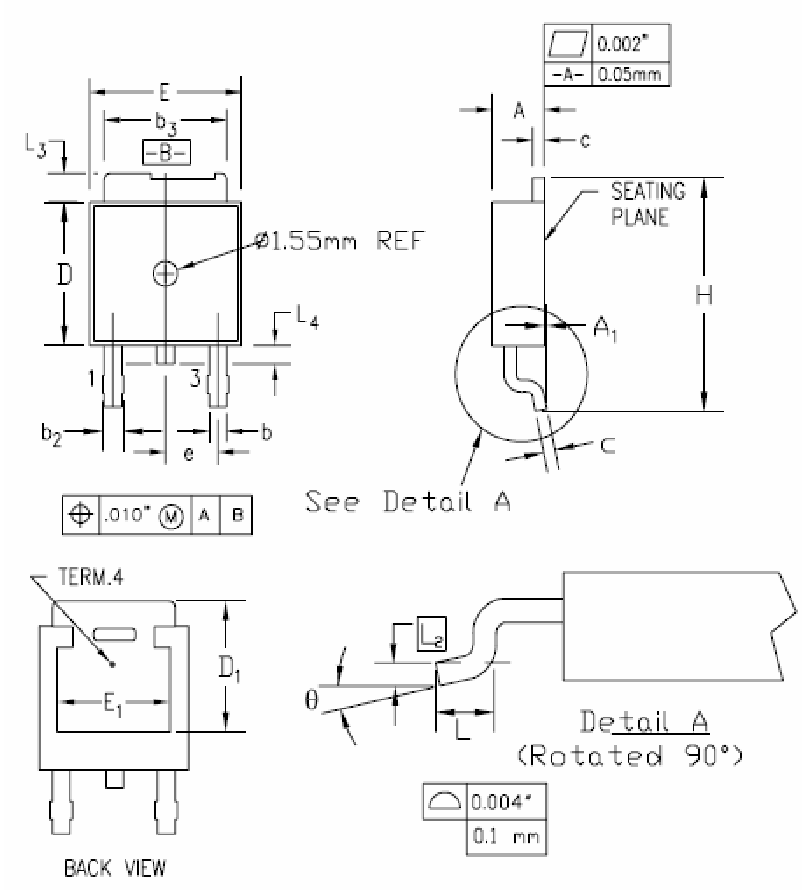
- 150 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

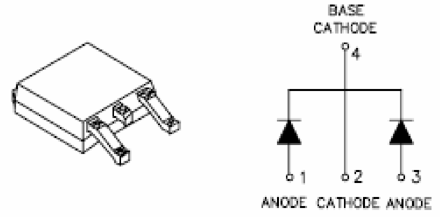
Mechanical Dimensions: In Inches / mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390
L1	2.550	2.900	0.100	0.114
L2	1.400	1.780	0.055	0.070
L3	0.600	0.900	0.024	0.035
V	3.800 REF.		0.150 REF.	

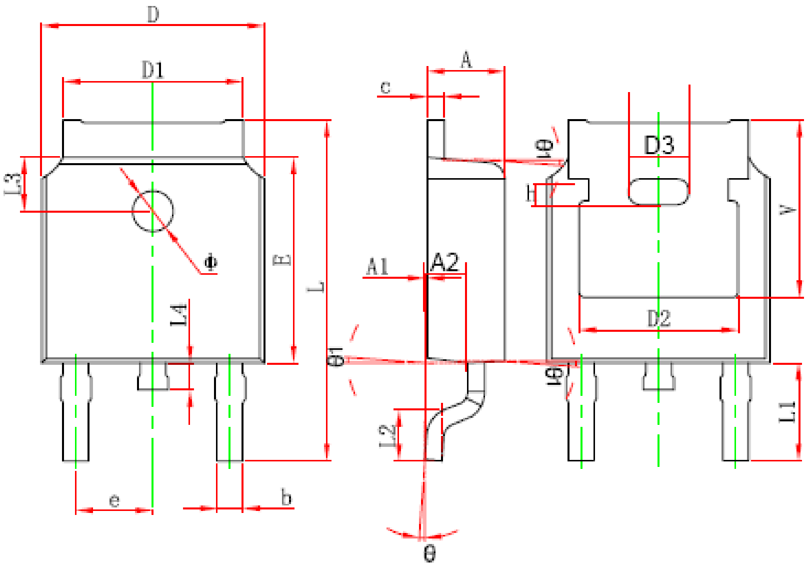
OPTION 1



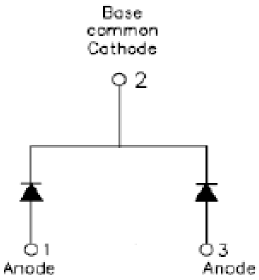


SYMBOL	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.086	0.094	2.19	2.38
A_1	–	0.005	–	0.13
b	0.025	0.035	0.64	0.89
b_2	0.033	0.045	0.84	1.14
b_3	0.205	0.215	5.21	5.46
c	0.018	0.024	0.46	0.61
D	0.235	0.245	5.97	6.22
D_1	0.205	–	5.21	–
E	0.250	0.265	6.35	6.73
E_1	0.190	–	4.83	–
e	0.090 BSC		2.29 BSC	
H	0.380	0.410	9.65	10.41
L	0.055	0.070	1.40	1.78
L_2	0.020 BSC		0.51 BSC	
L_3	0.035	0.050	0.89	1.27
L_4	0.025	0.040	0.64	1.01
θ	0°	8°	0°	8°

OPTION 2



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
A2	0.910	1.110	0.036	0.044
V	5.350 REF.		0.211 REF.	
D3	1.778REF.		0.070REF.	
h	0.762REF.		0.030REF.	
θ1	7°		7°	



OPTION 3(CJ)

DPAK

Marking Diagram:

Where XXXXX is YYWWL

MBR = Device Type
D = Package type
10 = Forward Current (10A)
200 = Reverse Voltage (200V)
CT = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions：Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
MBRD10200CT	DPAK (Pb-Free)	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	200	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @T_C =105°C, rectangular wave form	5(Per leg)	A
			10(Per device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	128	A

Electrical Characteristics:

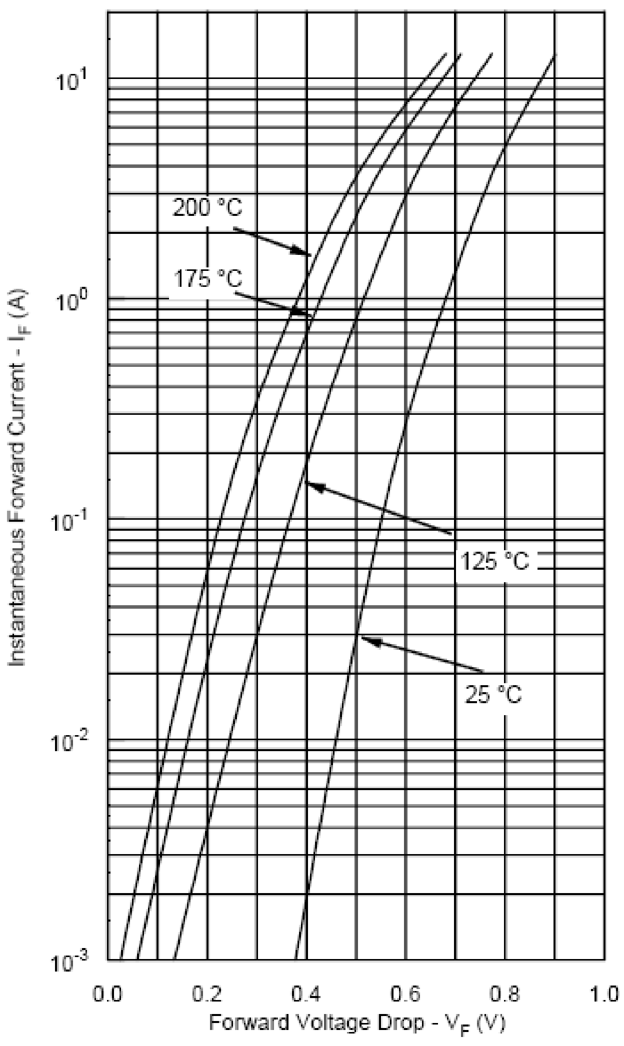
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V_{F1}	@ 5 A, Pulse, T_J = 25 °C	0.9	V
	V_{F2}	@ 5 A, Pulse, T_J = 125 °C	0.74	V
Max. Reverse Current (per leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	1	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	25	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	150	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/μs

* Pulse Width < 300μs, Duty Cycle <2%

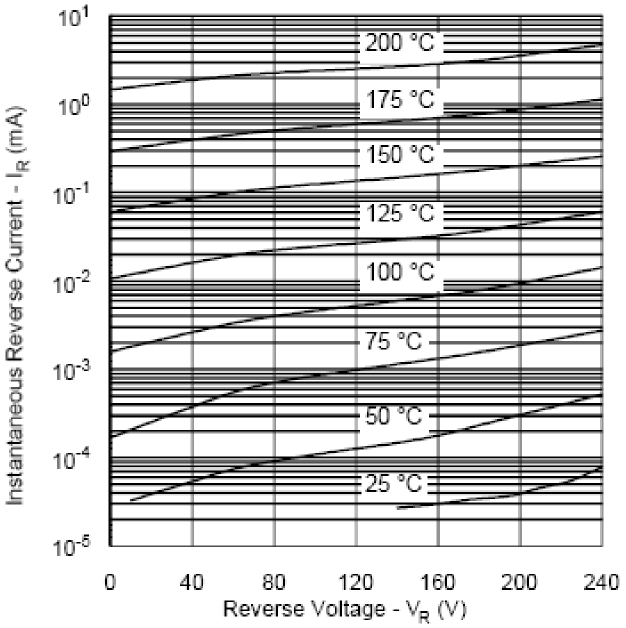
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	T_J	-	-55 to +150	°C
Storage Temperature Range	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	3.5	°C/W
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	2.0	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for TO-220)	1.0	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

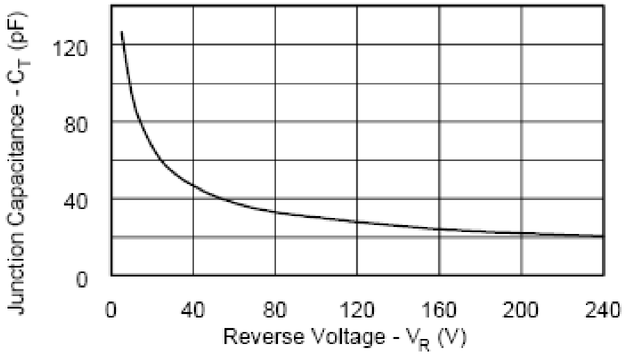
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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