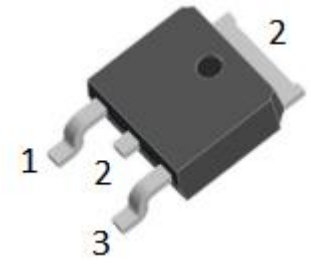
Technical Data
Data Sheet N1068, Rev. A

MBRD630CT SCHOTTKY RECTIFIER

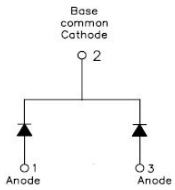


DPAK

Features

- 150℃ 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
- "-A" is an AEC-Q101 qualified device
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

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

Maximum Ratings(limiting values, T_C =25°C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	30	V
Average Rectified Forward Current	$I_{F\ (AV)}$	Tc=147°C, In DC	3(peg leg) 6(peg device)	A
Peak One Cycle Non-Repetitive Surge Current(peg leg)	I_{FSM}	8.3 ms, half Sine pulse	75	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 3 A, Pulse, T_J = 25 °C @ 6 A, Pulse, T_J = 25 °C	0.46 0.52	0.70 0.90	V
	V_{F2}	@ 3 A, Pulse, T_J = 125 °C @ 6 A, Pulse, T_J = 125 °C	0.36 0.44	0.65 0.85	V
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.01	0.1	mA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	5	50	mA
Junction Capacitance(per leg)	C_T	@V_R = 5V, T_C = 25 °C, f_{SIG} = 1MHz	220	220	pF

* Pulse width < 300 μs, duty cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to + 150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	-	1.6	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	-	85	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

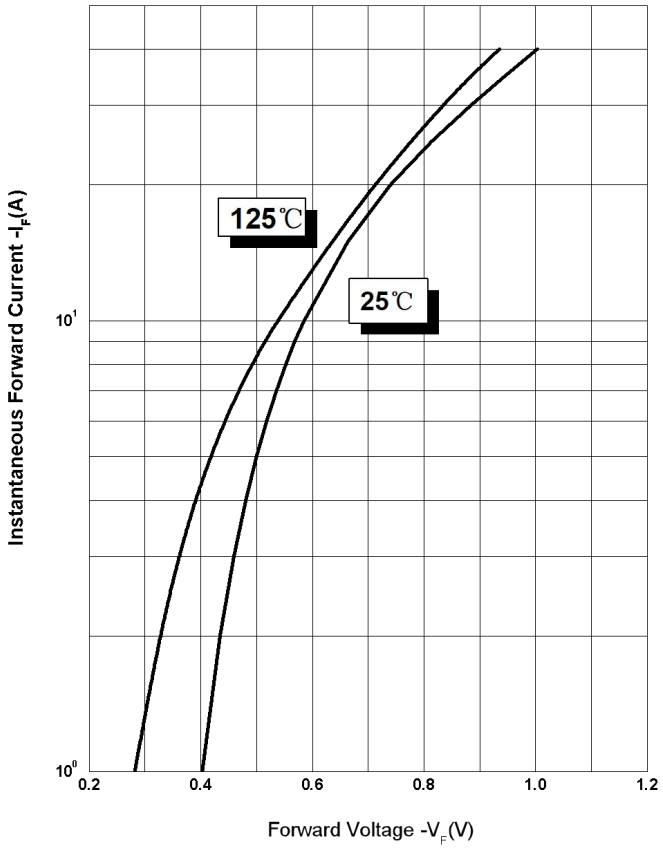


Figure 2 Typical Reverse Characteristics

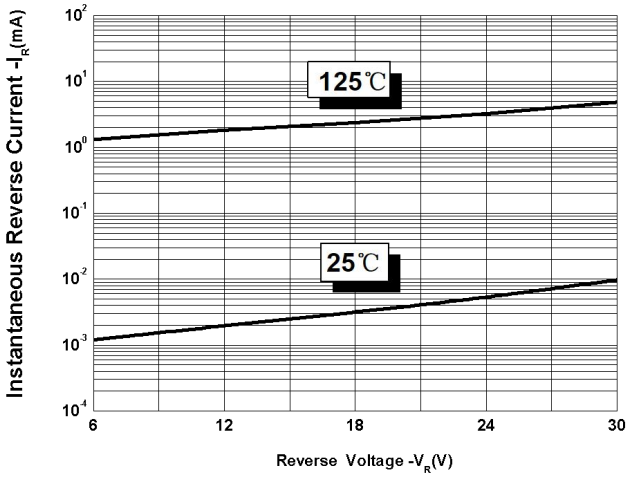
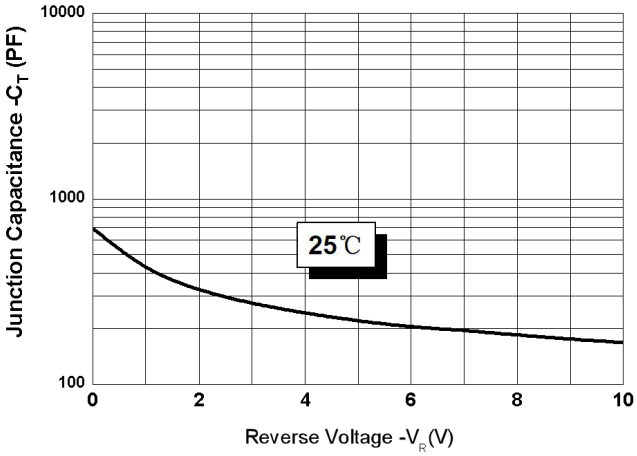


Figure 3 Typical Junction Capacitance



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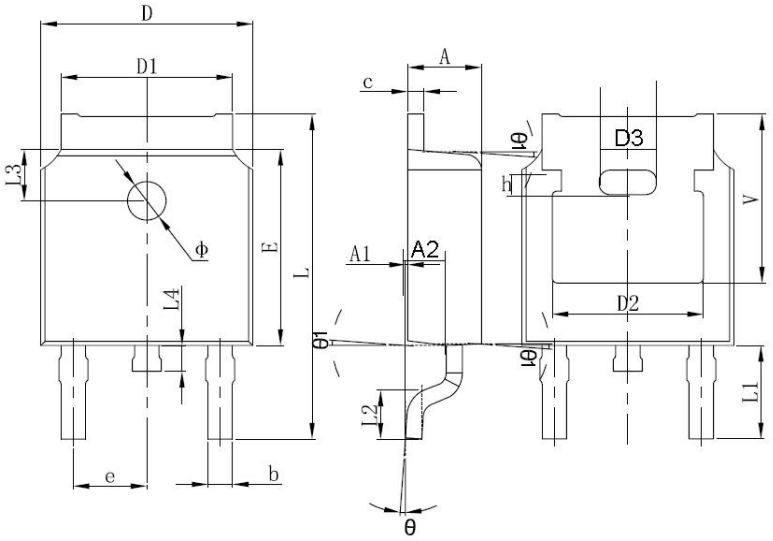
Mechanical Dimensions DPAK



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	2.18	-	2.39
A1	-	-	0.13
b	0.64	-	0.89
c	0.46	-	0.89
D	6.35	-	6.73
D1	4.95	-	5.46
D2	4.32	-	-
E	5.97	6.1	6.22
e		2.29BSC	
L	9.4	-	10.41
L1		2.90 REF.	
L2	1.4	1.52	1.78
L3		1.60 REF.	
L4	-	-	1.02
Φ	1.1	-	1.3
Θ	0°	-	10°
V	5.21	-	-

The outline from different package houses may have slight differences. So the outline above is just schematic. The dimensions are controlled per specifications.

Ordering Information

Device	Package	Shipping
MBRD630CT	DPAK (Pb-Free)	2500pcs / reel
MBRD630CTTR	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.

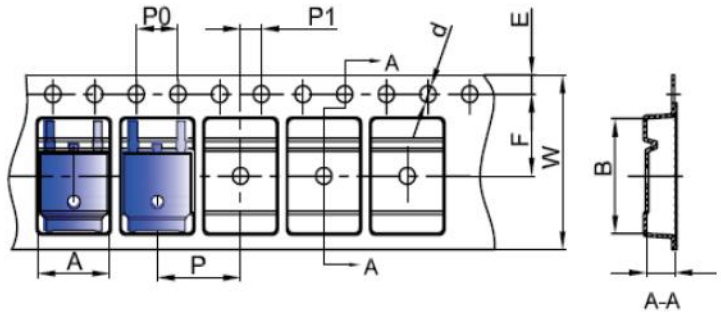
Marking Diagram

Where XXXXX is YYWWL

MBR	= Device Type
D	= Package type
6	= Forward Current (6A)
30	= Reverse Voltage (30V)
CT	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

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

Carrier Tape Specification DPAK



SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

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