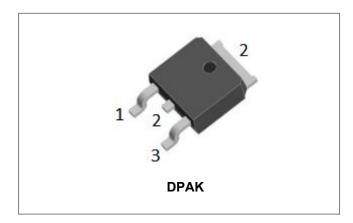


# MBRD630CT

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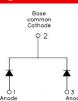
# **MBRD630CT SCHOTTKY RECTIFIER**



## Features

- 150°C T<sub>J</sub> 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:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	30	V
Average Rectified Forward Current	I <sub>F (AV)</sub>	50% duty cycle @Tc =105°C, rectangular wave form	3(peg leg) 6(peg device)	A
Peak One Cycle Non-Repetitive Surge Current(peg leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse	75	А

# **Electrical Characteristics:**

Characteristics	Symbol	Condition	Тур.	Max.	Units
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	(a) 3 A, Pulse, $T_J = 25 \circ C$	0.45	0.70	V
(per leg)		@ 6 A, Pulse, T <sub>J</sub> = 25 °C	-	0.90	
	VF2	@ 3 A, Pulse, T <sub>J</sub> = 125 °C	0.35	0.65	V
		@ 6 A, Pulse, TJ = 125 °C	-	0.85	-
Reverse Current (per leg) *	I <sub>R1</sub>	$@V_R$ = rated $V_{R, T_J}$ = 25 °C	0.02	0.1	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	18	50	mA
Junction Capacitance(per leg)	CT	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C, f <sub>SIG</sub> = 1MHz	200	220	pF

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

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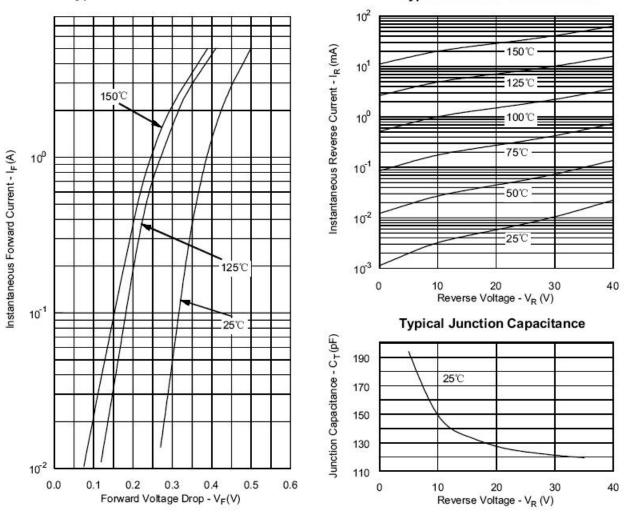


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# **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	TJ	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to + 150	°C
Typical Thermal Resistance Junction to Case	$R_{ ext{ heta}JC}$	-	6	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{ heta JA}$	-	80	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

# **Ratings and Characteristics Curves**



#### **Typical Forward Characteristics**

# Typical Reverse Characteristics

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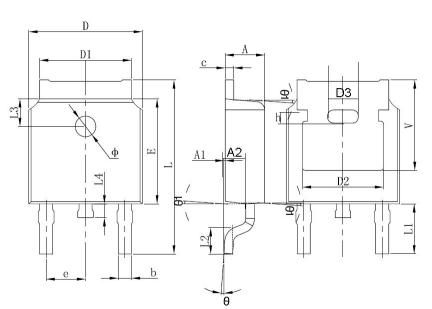
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**Technical Data** 

# MBRD630CT

# RoHS 🗭

# **Mechanical Dimensions DPAK**



EVMPOL	Millimeters		Inches		
SYMBOL	Min.	Max.	Min.	Max.	
A	2.20	2.40	0.087	0.094	
A1	0.00	0.127	0.000	0.005	
b	0.66	0.86	0.026	0.034	
с	0.46	0.60	0.018	0.024	
D	6.50	6.70	0.256	0.264	
D1	5.13	5.46	0.202	0.215	
D2	4.83 REF.		0.190 REF.		
E	6.00	6.20	0.236	0.244	
е	2.186	2.386	0.086	0.094	
L	9.70	10.40	0.381	0.409	
L1	2.90 REF.		0.144 REF.		
L2	1.40	1.70	0.055	0.067	
L3	1.60 REF.		0.063 REF.		
L4	0.60	1.00	0.024	0.039	
Φ	1.10	1.30	0.043	0.051	
Θ	0°	8°	0°	8°	
h	0.00	0.30	0.000	0.012	
V	5.35 REF.		0.211 REF.		

MBR

D

6 30

СТ

YΥ

WW

L

SSG

# **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**

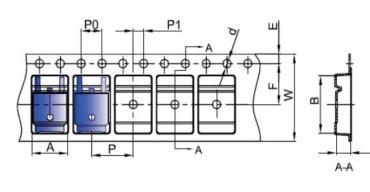


Where XXXXX is YYWWL

- = Device Type
- = Package type
- = Forward Current (6A)
- = Reverse Voltage (30V) = Configuration
- = SSG
- = Year
- = Week = Lot Number

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

## **Carrier Tape Specification DPAK**



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

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