

SWITCHING TYPE POWER SUPPLY APPLICATION.
CONVERTER & CHOPPER APPLICATION.

FEATURES

- Average Output Rectified Current
: $I_O=30A$.
- Reverse Voltage
: $V_R=45V$.
- Suffix U : Qualified to AEC-Q101.
ex) MBRD30U45CT-RTF/HU



DPAK(1)



DPAK(3)

PRODUCT DESCRIPTION

- Molding compound flammability rating : UL 94V-0
- Pb-Free, Halogen-Free, RoHs Compliant

Package dimensions (DPAK(1))	Package dimensions (DPAK(3))																																																																
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ORDERING INFORMATION

Part Number	Qty per Reel	Reel Size	Marking code
MBRD30U45CT-RTF	3000	13 inch	MBR30U45CT

MBRD30U45CT

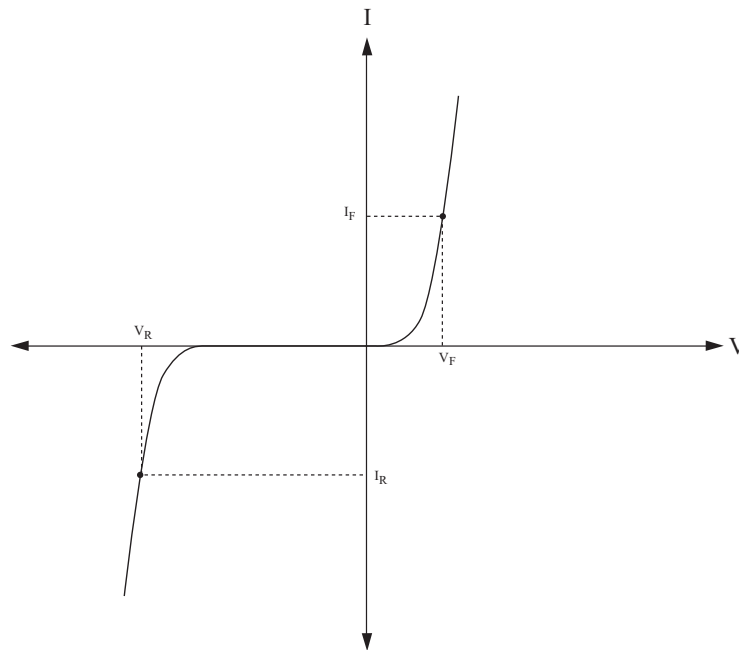
MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	45	V
Average Output Rectified Current (Note1)	I_O	30	A
Peak forward surge current with 8.3ms single half sine wave (Note 2)	I_{FSM}	100	A
Junction Temperature	T_j	-40 ~ 150	°C
Storage Temperature Range	T_{stg}	-40 ~ 150	°C

Note 1) Average forward current of centertap full wave connection

Note 2) Non-repetitive pulse

DEFINITIONS OF ELECTRICAL CHARACTERISTIC SYMBOL



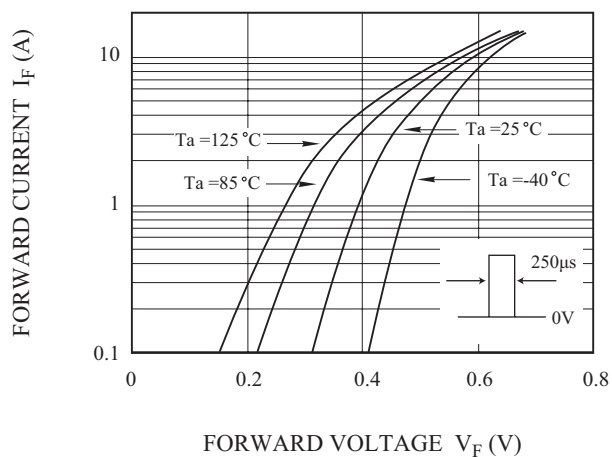
ELECTRICAL CHARACTERISTICS (@Ta=25°C, Unless otherwise specified.)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Peak Forward Voltage (Note)	V_{FM}	$I_{FM}=15A, T_a=25^{\circ}C$	-	0.67	0.70	V
		$I_{FM}=15A, T_a=125^{\circ}C$	-	0.64	-	V
Reverse Leakage Current (Note)	I_R	$V_R=45V, T_a=25^{\circ}C$	-	10	100	μA
		$V_R=45V, T_a=100^{\circ}C$	-	3,500	-	μA
Total Capacitance (Note)	C_T	$V_R=0V, f=1MHz$	-	1,050	-	pF
Reverse Recovery Time (Note)	t_{rr}	$V_R=30V, I_F=5A, di/dt=-100A/\mu s$	-	30	-	ns
Reverse Recovery Charge (Note)	Q_{rr}		-	32	-	nC
Reverse Recovery Current (Note)	I_{rr}		-	1.5	-	A
Thermal Resistance (Note)	$R_{th(j-a)}$	Junction to ambient	-	110	-	°C/W
	$R_{th(j-c)}$	Junction to case	-	-	6	°C/W

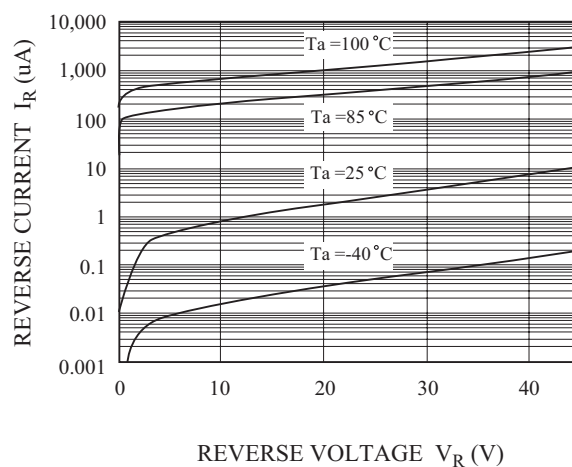
Note : A Value of one cell.

MBRD30U45CT

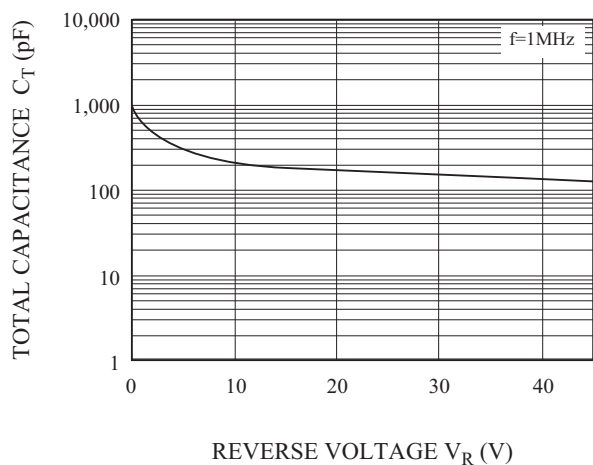
$I_F - V_F$



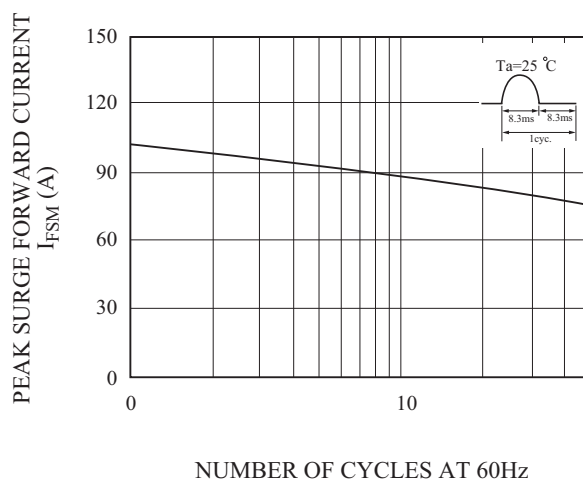
$I_R - V_R$



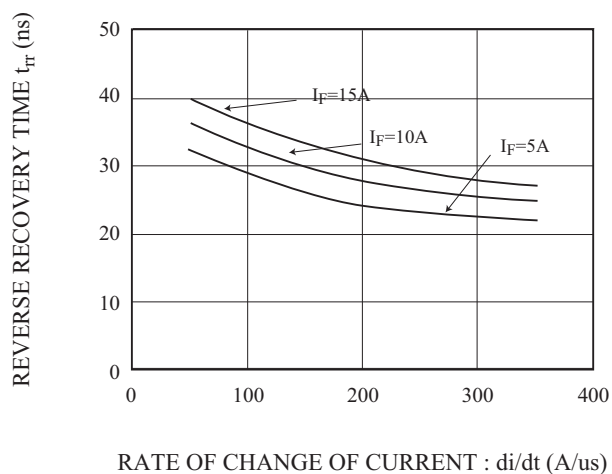
$C_T - V_R$



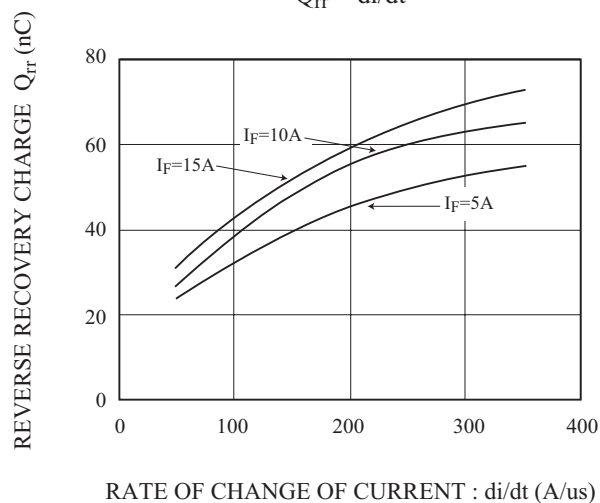
$I_{FSM} - \text{CYCLE CHARACTERISTICS}$



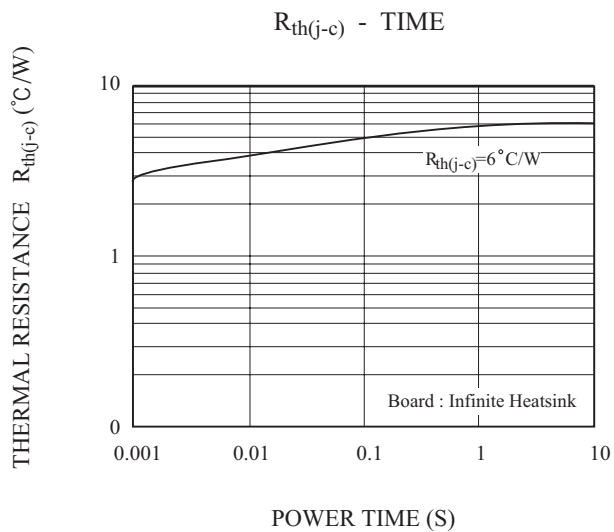
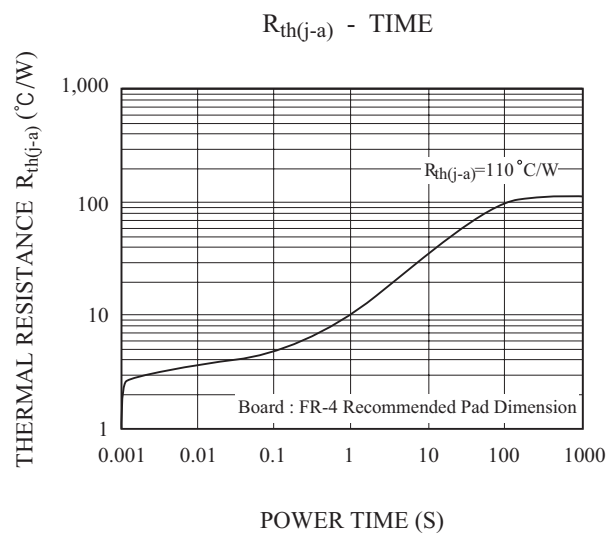
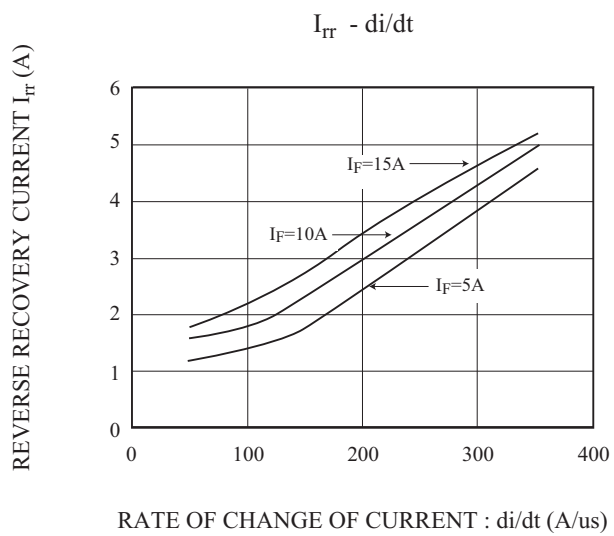
$t_{rr} - di/dt$



$Q_{rr} - di/dt$



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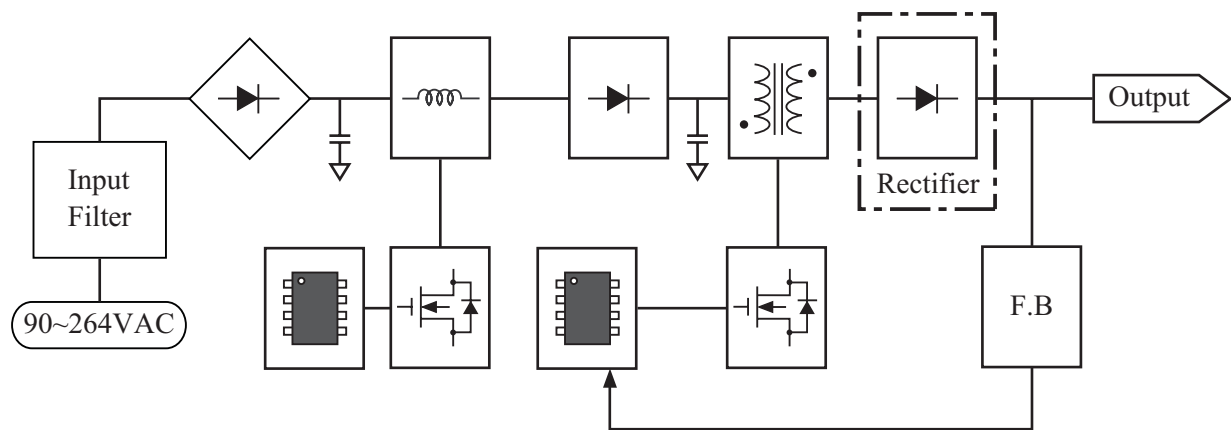


MBRD30U45CT

APPLICATIONS

- Charger
- Adapter(DC-DC Converter)
- Telecommunication
- Home Appliances
- Switching mode power supply

EXAMPLE OF SCHOTTKY BARRIER DIODE APPLICATION ON SMPS



Recommended pad dimension & Marking Information

Recommended pad dimension	Marking Code