MBRB1040CT THRU MBRB10200CT

10A Surface Mount High Power Schottky Barrier Rectifiers

■ Features

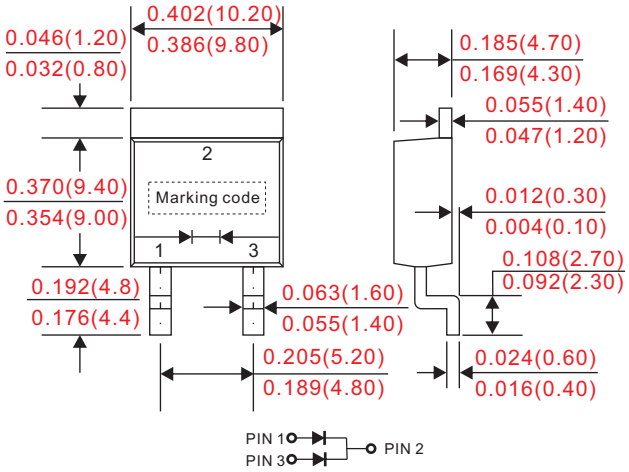
- Electrostatic discharge (ESD) test under IEC6100-4-2 standard >16KV(MBRB1040CT~MBRB1065CT). standard >10KV(MBRB10100CT~MBRB10200CT).
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex.MBRB1040CTG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-263 / D^2PAK
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 1.70 gram.

■ Outline

D^2PAK(TO-263)



Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			10	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			125	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25°C$	I_R			0.1	mA
	$V_R = V_{RRM}$ $T_A = 125°C$				10	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		150		pF
Thermal resistance	Junction to ambient	$R_{\theta JA}$		30		°C/W
Storage temperature		T_{STG}	-55		+175	°C

Symbol	Marking code	Max. repetitive peak reverse voltage V_{RRM} (V)	Max. RMS voltage V_{RMS} (V)	Max. DC blocking voltage V_R (V)	Max. forward voltage @5A, $T_A = 25°C$ V_F (V)	Max. forward voltage @5A, $T_A = 125°C$ V_F (V)	Operating temperature T_J (°C)
MBRB1040CT	MBRB1040CT	40	28	40	0.70	0.57	-50 ~ +150
MBRB1045CT	MBRB1045CT	45	31.5	45			
MBRB1060CT	MBRB1060CT	60	42	60	0.79	0.70	
MBRB1065CT	MBRB1065CT	65	45.5	65			
MBRB10100CT	MBRB10100CT	100	70	100	0.81	0.71	
MBRB10150CT	MBRB10150CT	150	105	150	0.87	0.77	-50 ~ +175
MBRB10200CT	MBRB10200CT	200	140	200	0.90	0.80	

Document ID : DS-12K63
Issued Date : 2010/05/05
Revised Date : 2012/05/31
Revision : C

■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve

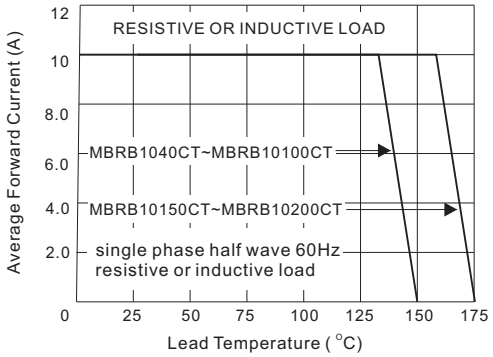


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

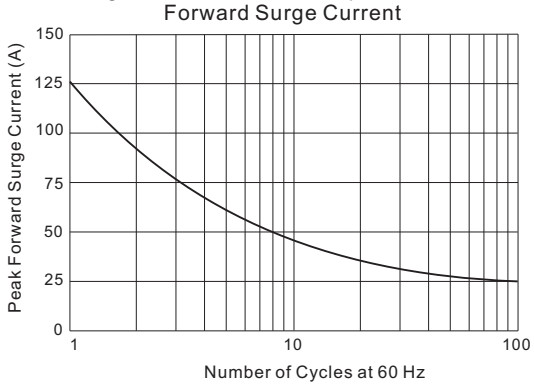


Fig. 3.1 - Typical Instantaneous Forward Characteristics

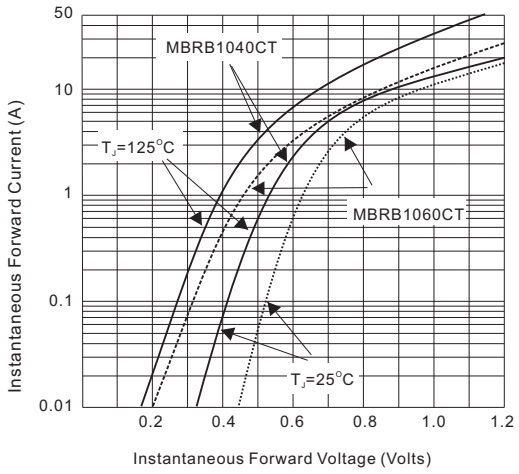


Fig. 3.2 - Typical Instantaneous Forward Characteristics

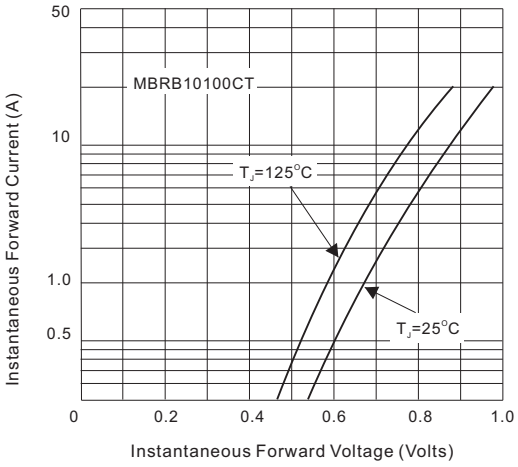


Fig. 3.3 - Typical Instantaneous Forward Characteristics

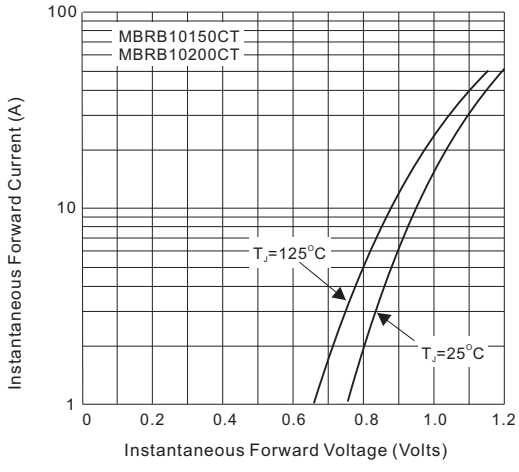
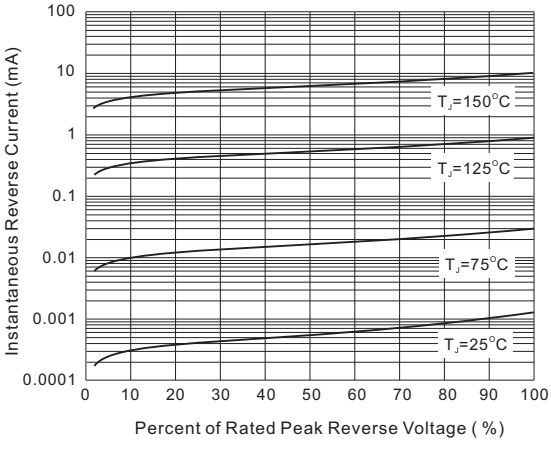
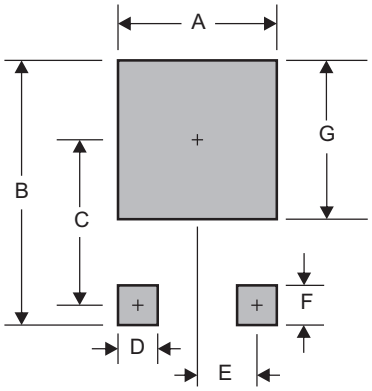


Fig. 4 - Typical Reverse Characteristics



Document ID : DS-12K63
Issued Date : 2010/05/05
Revised Date : 2012/05/31
Revision : C

■ D^2PAK(TO-263) foot print



A	B	C	D	E	F	G
0.425 (10.80)	0.665 (16.90)	0.374 (9.50)	0.071 (1.80)	0.098 (2.50)	0.138 (3.50)	0.449 (11.40)

Dimensions in inches and (millimeters)

■ CITC reserves the right to make changes to this document and its products and specifications at any time without notice.

■ Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

■ CITC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CITC assume any liability for application assistance or customer product design.

■ CITC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

■ No license is granted by implication or otherwise under any intellectual property rights of CITC.

■ CITC products are not authorized for use as critical components in life support devices or systems without express written approval of CITC.

http://www.citcorp.com.tw/ Tel:886-3-5600628 Fax:886-3-5600636

Add:Rm. 3, 2F., No.32, Taiyuan St., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)

Document ID : DS-12K63
Issued Date : 2010/05/05
Revised Date : 2012/05/31
Revision : C