



MBRD2040 THRU MBRD20200

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - **40 to 200** Volts

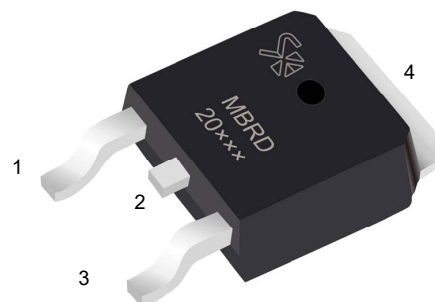
FORWARD CURRENT - **20.0** Amperes

FEATURES

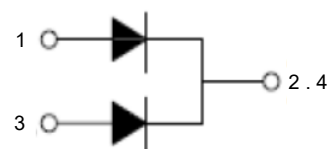
- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any

MECHANICAL DATA

- Case: TO-252
- Approx. Weight: 0.329g (0.011oz)
- Lead free finish, RoHS compliant
- Case Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".



TO-252(D-PAK)



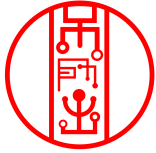
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	TO-252	MBRD2040	MBRD2045	MBRD2060	MBRD20100	MBRD20150	MBRD20200	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V _{RMS}	28	32	42	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	40	45	60	100	150	200	V
Maximum Average Forward Rectified Current Per leg Per device	I _{F(AV)}	10 20						A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)(Per leg)	I _{FSM}	130						A
Max Instantaneous Forward Voltage at 10 A DC per leg	V _F	0.70		0.75	0.85	0.90	0.92	V
Maximum DC Reverse Current T _J = 25°C at Rated DC Reverse Voltage T _J =125°C	I _R	0.1 20			0.05 20			mA
Typical Junction Capacitance ⁽¹⁾	C _j	600		400				pF
Typical Thermal Resistance ⁽²⁾	R _{θJA} R _{θJC}	35 10						°C/W
Operating Junction Temperature Range	T _j	-55 ~ +150				-55 ~ +175		°C
Storage Temperature Range	T _{stg}	-55 ~ +150				-55 ~ +175		°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 3.81X3.81cm copper pad areas.



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Fig.1 Typical Forward Current Derating Curve

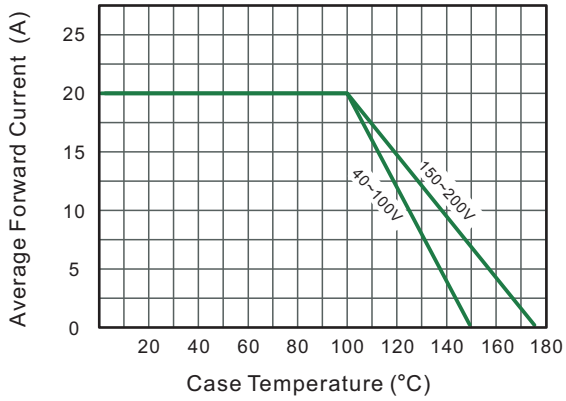


Fig.2 Typical Reverse Characteristics

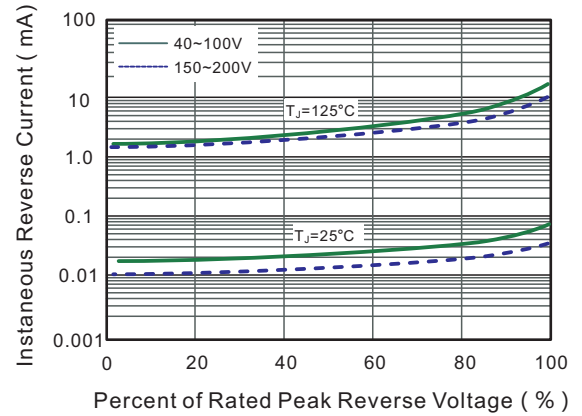


Fig.3 Typical Forward Characteristics

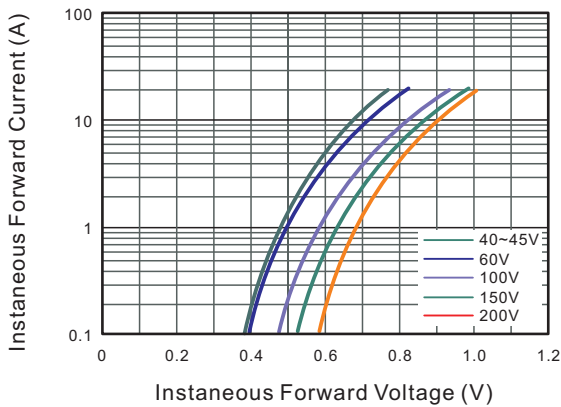


Fig.4 Typical Junction Capacitance

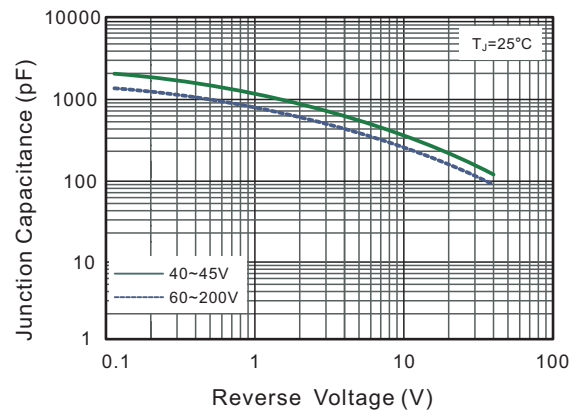


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

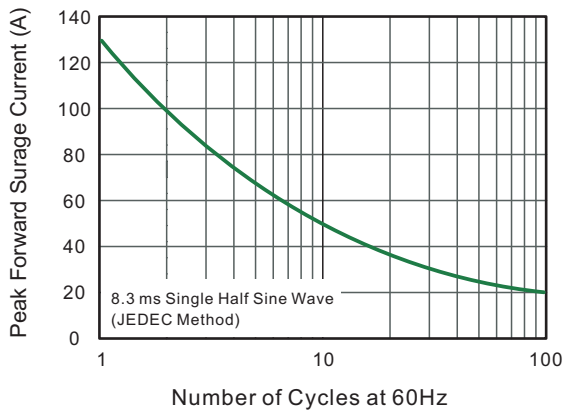
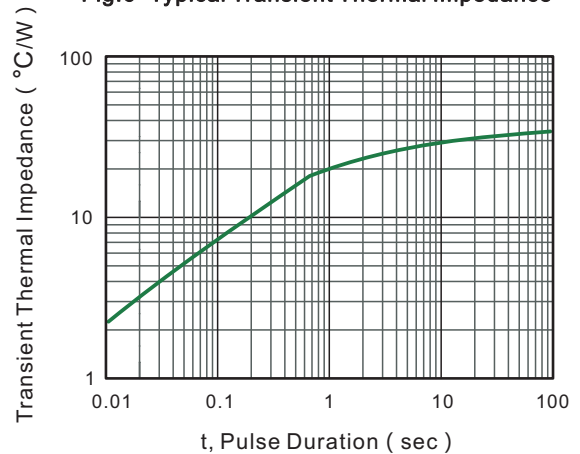


Fig.6- Typical Transient Thermal Impedance

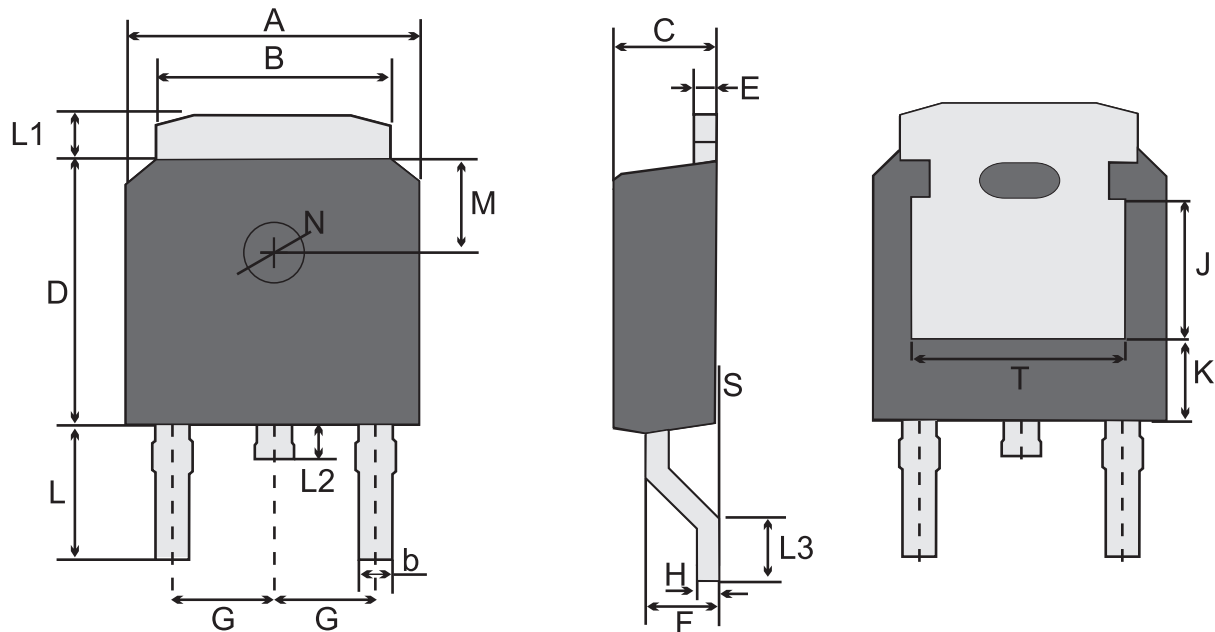




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PACKAGE OUTLINE

TO-252(D-PAK)



TO-252 (D-PAK) Mechanical data

UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	T	K
mm	max	6.7	5.53	0.86	2.5	6.3	0.61	1.87	2.3 typ.	0.55	3.0	1.2	1.0	1.75	0.23	1.8 typ.	1.3 typ.	3.2 ref.	4.83 ref.	1.8 ref.
	typ	6.6	5.33	0.76	2.3	6.1	0.51	1.57		0.50	2.8	1.0	0.8	1.30	0.15					
	min	6.3	5.13	0.66	2.1	5.9	0.41	1.27		0.45	2.6	0.8	0.6	1.0	/					
mil	max	264	218	34	98	248	24	74	91 typ.	22	118	47	39	69	9.1	71 typ.	51 typ.	126 ref.	190 ref.	71 ref.
	typ	260	210	30	91	240	20	62		20	110	39	31	51	5.9					
	min	248	202	26	83	232	16	50		18	102	31	24	39	/					