



MBRD2040T(D) THRU MBRD20200T(D)

Reverse Voltage -40 to 200 Volts Forward Current - 20.0 Ampere

SCHOTTKY BARRIER GLASS PASSIVATED RECTIFIERS

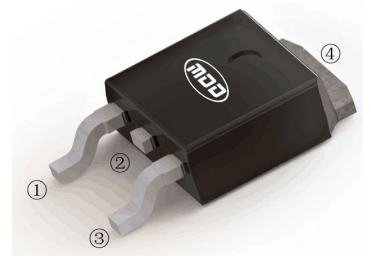
FEATURES

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

TO-251(I-PAK)



TO-252(D-PAK)



MECHANICAL DATA

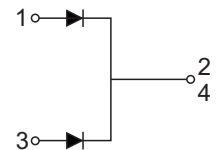
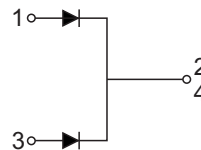
Case: TO-251/252 molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0141 ounce (approx), 0.4 grams (approx)



PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
TO-251	13'	330	2500	340×336×29	2500	353×346×365	25000
TO-252	13'	330	2500	340×336×29	2500	353×346×365	25000

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

MCHARACTERISTICS	TO-251	MBRD 2040T	MBRD 2045T	MBRD 2060T	MBRD 20100T	MBRD 20150T	MBRD 20200T	UNITS
	TO-252	MBRD 2040D	MBRD 2045D	MBRD 2060D	MBRD 20100D	MBRD 20150D	MBRD 20200D	
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	31.5	42	70	105	140	V
Maximum DC blocking voltage	V_{DC}	40	45	60	100	150	200	V
Maximum average forward rectified current	$I_{(AV)}$	20.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150						A
Maximum instantaneous forward voltage at 10.0A	V_F	0.70		0.75	0.85	0.90	0.92	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	0.1			0.05			mA
		20			20			
Typical junction capacitance (NOTE 1)	C_J	600		400				pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	45						°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				-55 to +175		°C

Note: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

2. Mounted on 10cm x 10cm x 1mm copper pad area

3. The typical data above is for reference only.



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Rating and Characteristic Curves

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

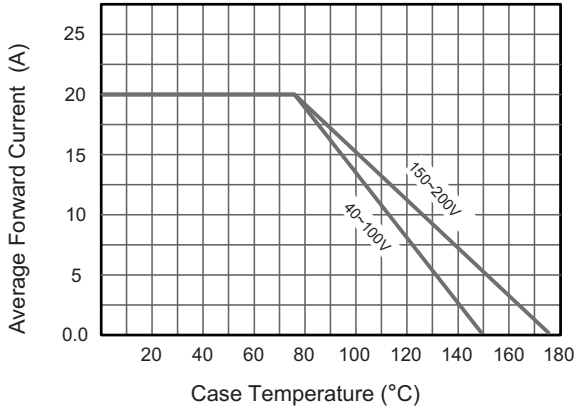


Fig.2 Typical Reverse Characteristics

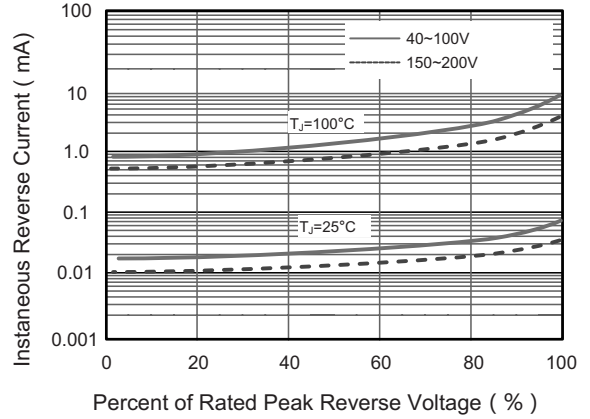


Fig.3 Typical Forward Characteristic

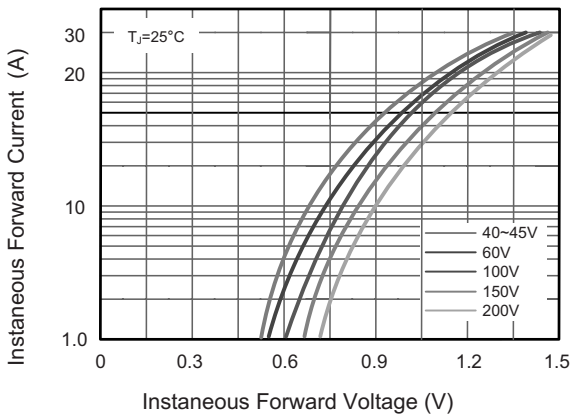


Fig.4 Typical Junction Capacitance

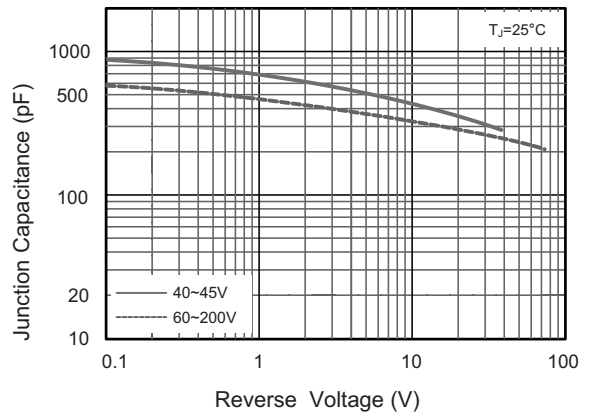


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

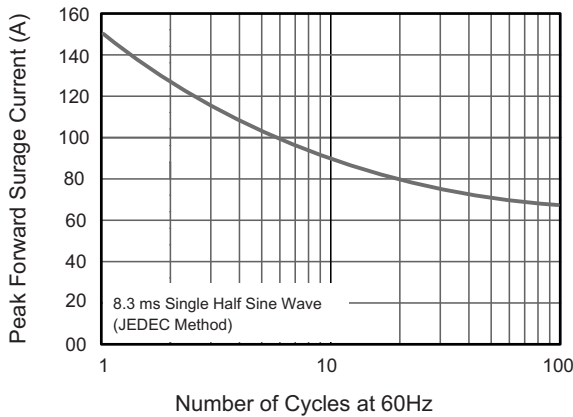
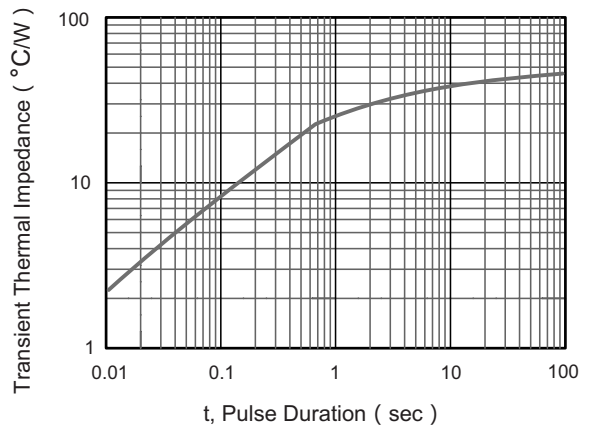


Fig.6- Typical Transient Thermal Impedance



The curve above is for reference only.

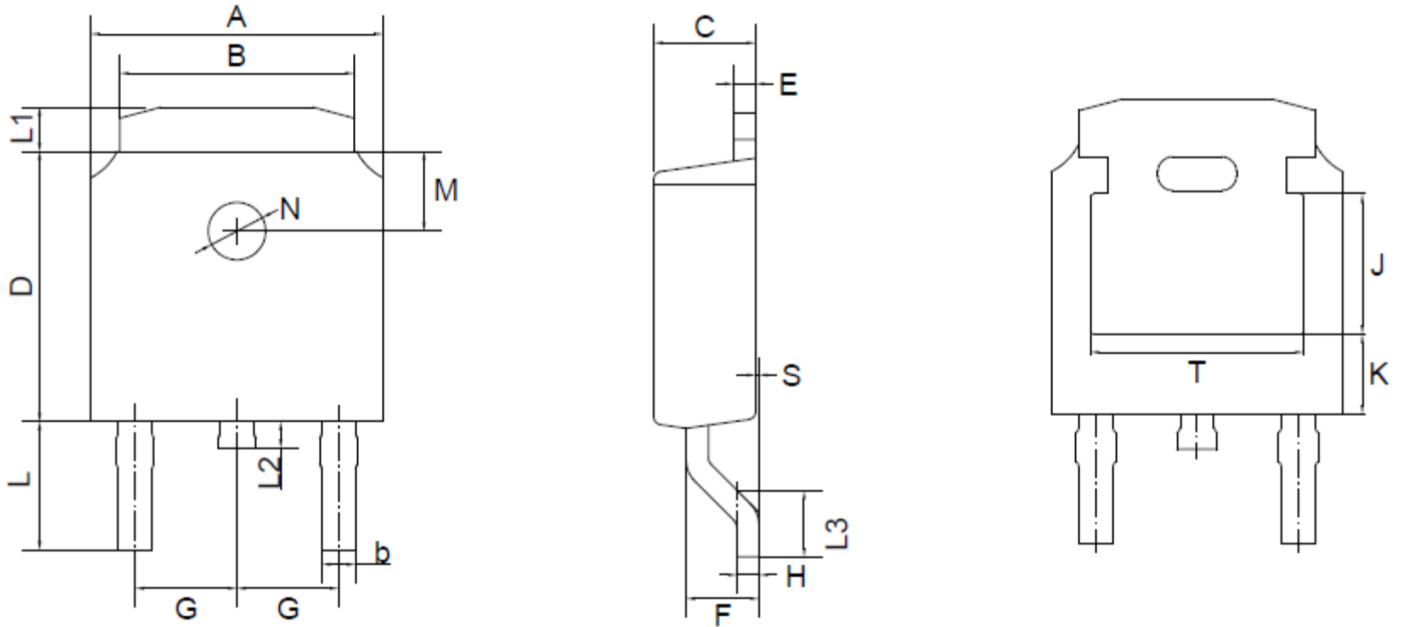


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Outline Drawing

TO-252(D-PAK) Package Outline Dimensions



TO-252(D-PAK) mechanical data

UNIT		A	B	b	C	D	E	F	G	H	L	L1	L2	L3	S	M	N	J	K	T
mm	max	6.7	5.5	0.8	2.5	6.3	0.6	1.8	2.29 TYPICAL	0.55	3.1	1.2	1.0	1.75	0.1	1.8 TYPICAL	1.3 TYPICAL	3.16 ref.	1.80 ref.	4.83 ref.
	min	6.3	5.1	0.3	2.1	5.9	0.4	1.3		0.45	2.7	0.8	0.6	1.40	0.0					
mil	max	264	217	31	98	248	24	71	90 TYPICAL	22	122	47	39	69	4	71 TYPICAL	51 TYPICAL	124 ref.	71 ref.	190 ref.
	min	248	201	12	83	232	16	51		18	106	31	24	55	0					

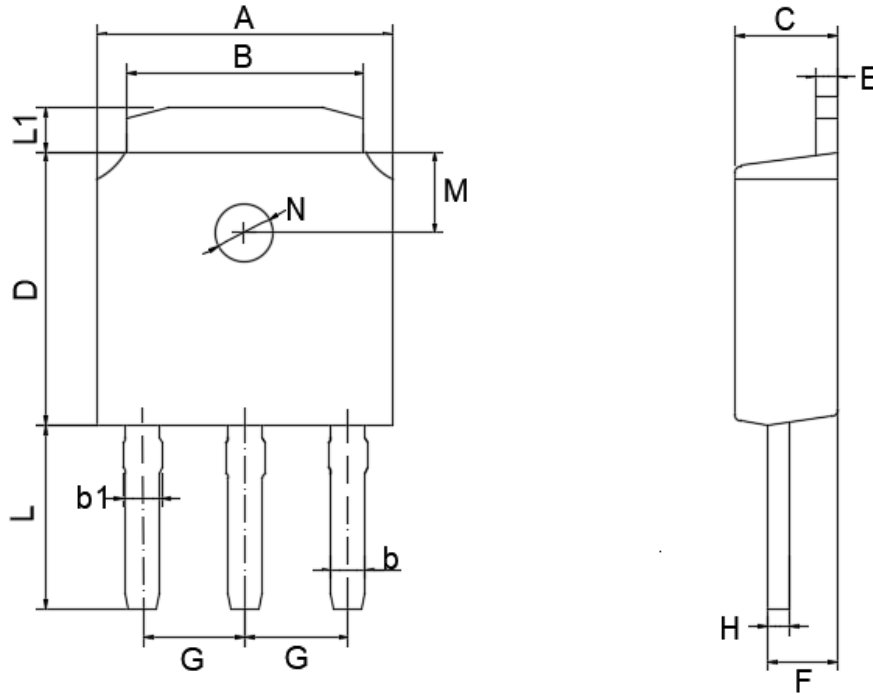


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TO-251(I-PAK) mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N
mm	max	6.70	5.50	0.80	0.90	2.50	6.30	0.60	1.80	2.29	0.55	4.30	1.20	1.8	1.3
	min	6.30	5.10	0.30	0.76	2.10	5.90	0.40	1.30	TYPICAL	0.45	3.90	0.80	TYPICAL	TYPICAL
mil	max	264	217	31	35	98	248	24	71	90	22	169	47	71	51
	min	248	201	12	30	83	232	16	51	TYPICAL	18	154	31	TYPICAL	TYPICAL