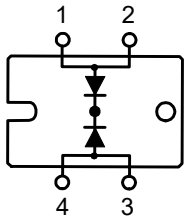
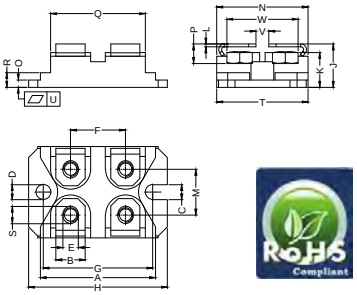
MBR2X160-100NB thru MBR2X160-200NB

High Tjm Low IRRM Schottky Barrier Diodes



	V_{RSM} V	V_{RRM} V
MBR2x160-100NB	100	100
MBR2x160-150NB	150	150
MBR2x160-200NB	200	200

Dimensions SOT-227(ISOTOP)



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	31.30	31.65	M	12.00	13.00
B	7.80	8.40	N	25.15	25.65
C	4.00	4.30	O	1.95	2.15
D	Ø4.00	Ø4.30	P	5.60	6.60
E	4.00	4.30	Q	25.30	26.30
F	14.90	15.20	R	3.90	4.30
G	30.10	30.30	S	4.45	4.85
H	38.00	38.50	T	24.50	25.10
J	12.10	12.90	U	0.05	0.10
K	9.00	9.60	V	3.00	4.80
L	0.75	0.85	W	19.30	20.50

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FAVM}	T_C=95°C; rectangular, d=0.5; Per Chip T_C=95°C; rectangular, d=0.5; Per Chip T_C=95°C; rectangular, d=0.5; per device	200 160 320	A
I_{FSM}	T_{VJ}=45°C; t_p=10ms (50Hz), sine	1400	A
E_{AS}	I_{AS}=17A; L=180uH; T_{VJ}=25°C; non repetitive	31	mJ
I_{AR}	V_A=1.5·V_{RRM} typ.; f=10kHz; repetitive	1.7	A
$(dv/dt)_{cr}$		5000	V/us
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	°C
P_{tot}	T_C=25°C	410	W
M_d	mounting torque (M4); terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
Weight	typical	30	g

Symbol	Test Conditions	Characteristic Values typ.	Characteristic Values max.	Unit
I_R	T_{VJ}=25°C; V_R=V_{RRM} T_{VJ}=125°C; V_R=V_{RRM}		4 40	mA
V_F	I_F=160A; T_{VJ}=125°C I_F=160A; T_{VJ}=25°C I_F=320A; T_{VJ}=125°C	100V: 0.75 0.88 0.95	150V: 0.77 0.91 0.99	200V: 0.85 0.95 1.10	V
R_{thJC} R_{thCH}		0.15	0.30	K/W

FEATURES

* International standard package SOT-227
* Very low V_F
* Extremely low switching losses
* Low I_{RM}-values
* RoHS compliant

APPLICATIONS

* Rectifiers in switch mode power supplies (SMPS)
* Free wheeling diode in low voltage converters

ADVANTAGES

* High reliability circuit operation
* Low voltage peaks for reduced protection circuits
* Low noise switching
* Low losses

Sirectifier®

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019919 E-mail: sales@sirectifier.com

MBR2X160-100NB thru MBR2X160-200NB

High Tjm Low IRRM Schottky Barrier Diodes

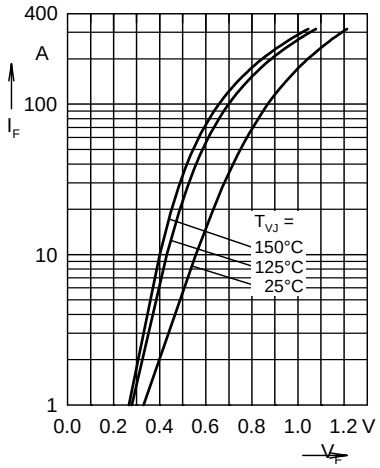


Fig. 1 Max. forward voltage drop characteristics

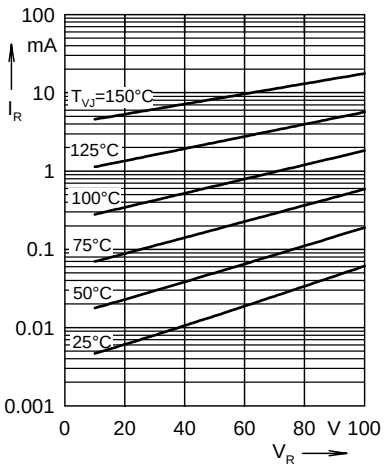


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

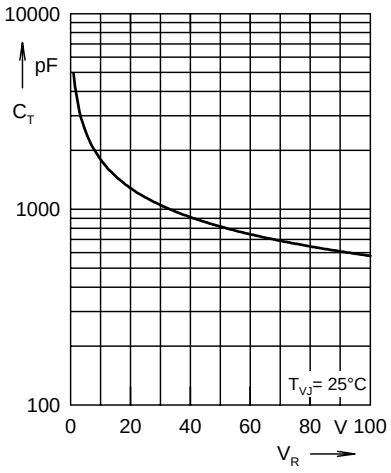


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

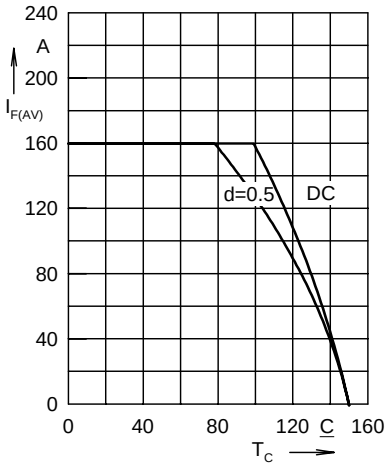


Fig. 4 Avg. forward current $I_{F(AV)}$ vs. case temperature T_C

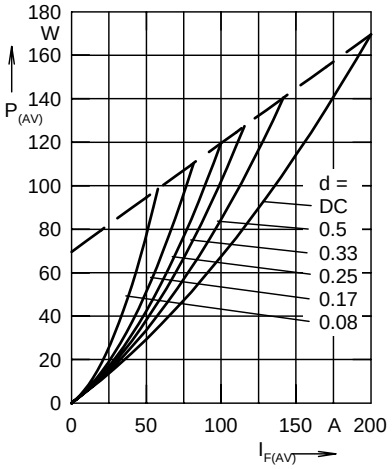


Fig. 5 Forward power loss characteristics

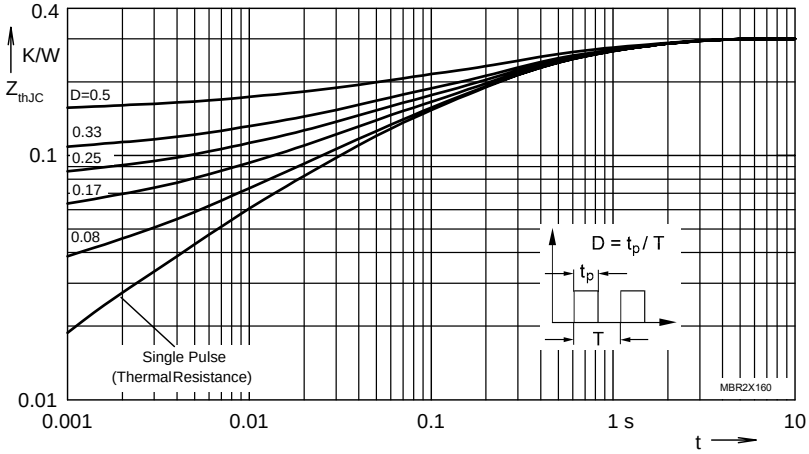


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019919 E-mail: sales@sirectifier.com