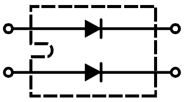
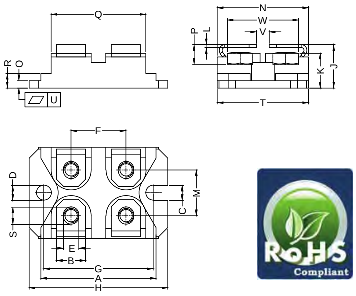
MBR2X80-XX

High Tjm Low IRRM Schottky Barrier Diodes



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

	V_{RSM} V	V_{RRM} V
MBR2*80-30	30	30
MBR2*80-40	40	40
MBR2*80-45	45	45

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FAVM}	 T_C=75°C; rectangular, d=0.5 T_C=75°C; rectangular, d=0.5; per device	100 80 160	A
I_{FSM}	T_{VJ}=45°C; t_p=10ms (50Hz), sine	900	A
E_{AS}	I_{AS}=20A; L=180uH; T_{VJ}=25°C; non-repetitive	57	mJ
I_{AR}	V_A=1.5·V_{RRM} typ.; f=10kHz; repetitive	2	A
$(dv/dt)_{cr}$		1000	V/us
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	°C
P_{tot}	T_C=25°C	150	W
V_{ISOL}	50/60Hz, RMS; I_{ISOL}≤1mA	2500	V~
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		Unit
		typ.	max.	
I_R	T_{VJ}=25°C; V_R=V_{RRM} T_{VJ}=100°C; V_R=V_{RRM}		60 250	mA
V_F	I_F=80A; T_{VJ}=125°C I_F=80A; T_{VJ}=25°C I_F=160A; T_{VJ}=125°C		0.64 0.66 1.07	V
R_{thJC} R_{thCH}		 0.1	0.8 	K/W

FEATURES

* International standard package miniBLOC
* Isolation voltage 2500 V~
* 2 independent Schottky diodes in 1 package
* Very low V_F
* Extremely low switching losses
* Low I_{RM}-values
* RoHS compliance

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

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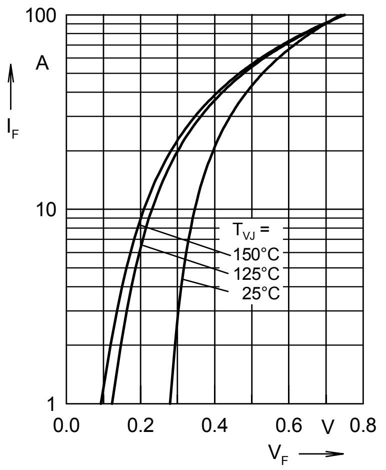

Fig. 1 Maximum forward voltage drop characteristics

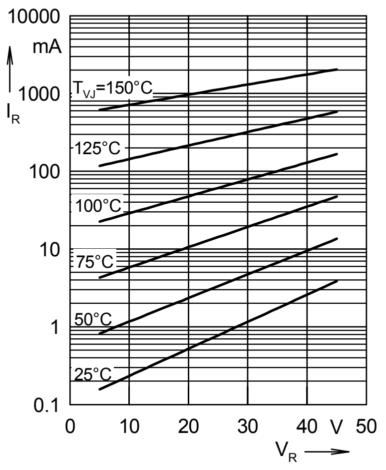

Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

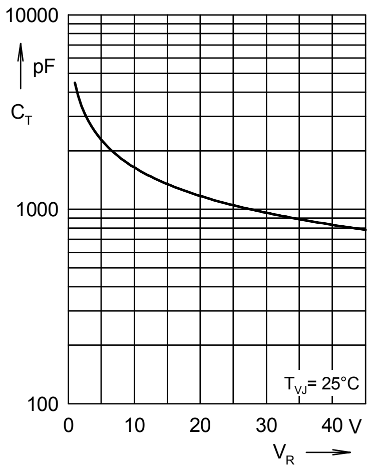

Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

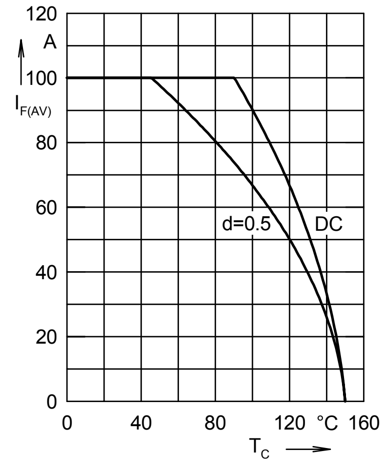

Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

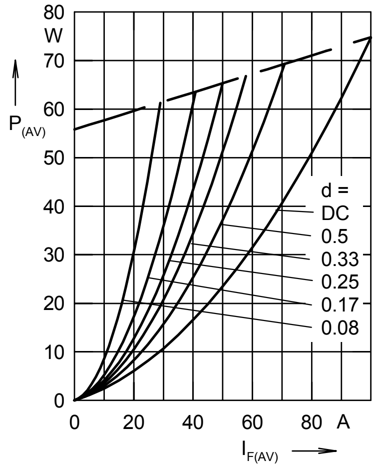

Fig. 5 Forward power loss characteristics

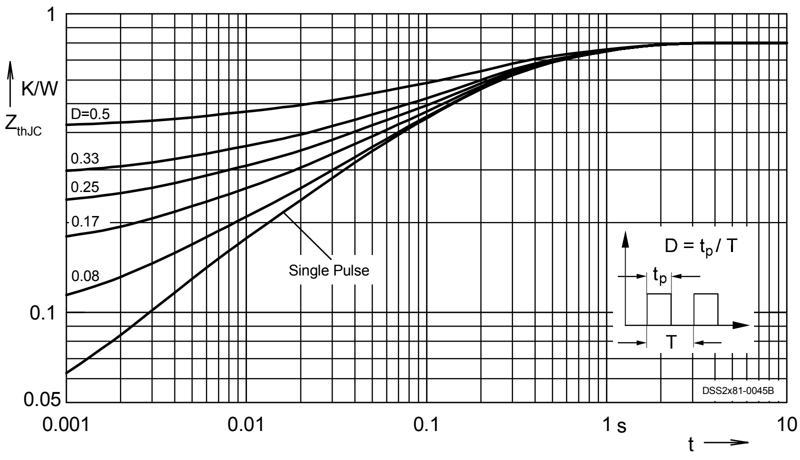

Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode