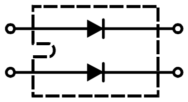
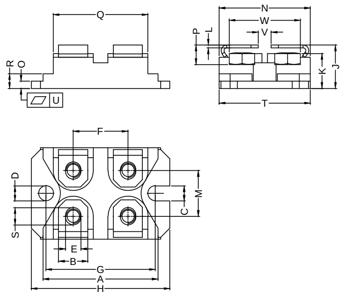
MBR2X60-XX

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
MBR2X60-30	30	30
MBR2X60-40	40	40
MBR2X60-45	50	45

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}		100	A
I_{FAVM}	T_C=105^{o}C; rectangular, d=0.5; per device	60	
I_{FAVM}	T_C=105^{o}C; rectangular, d=0.5; per device	120	
I_{FSM}	T_{VJ}=45^{o}C; t_p=10ms (50Hz), sine	800	A
E_{AS}	I_{AS}=20A; L=180uH; T_{VJ}=25^{o}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}		-40...+150	^{o}C
T_{VJM}		150	
T_{stg}		-40...+150	
P_{tot}	T_C=25^{o}C	150	W
V_{ISOL}	50/60Hz, R_{MS}; 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^{o}C; V_R=V_{RRM}		20	mA
	T_{VJ}=125^{o}C; V_R=V_{RRM}		200	
V_F	I_F=60A; T_{VJ}=125^{o}C	0.56	0.66	V
	I_F=60A; T_{VJ}=25^{o}C	0.64	0.74	
	I_F=120A; T_{VJ}=125^{o}C	0.76	0.86	
R_{thJC}			0.8	K/W
R_{thCH}		0.1		

FEATURES

* International standard package SOT-227
* Isolation voltage 2500 V~
* 2 independent Schottky diodes in 1 package
* Very low VF
* Extremely low switching losses
* Low IRM-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

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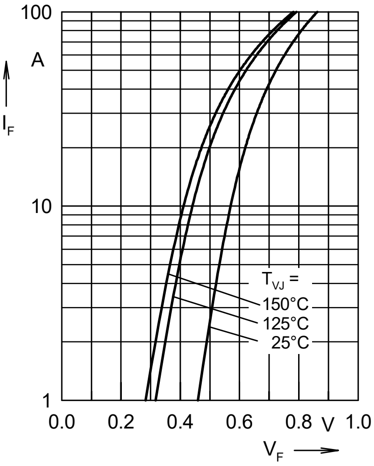

Fig. 1 Maximum forward voltage drop characteristics

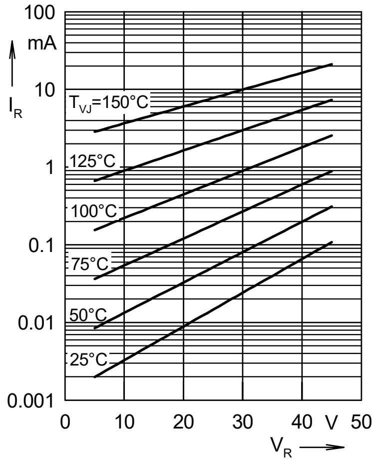

Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

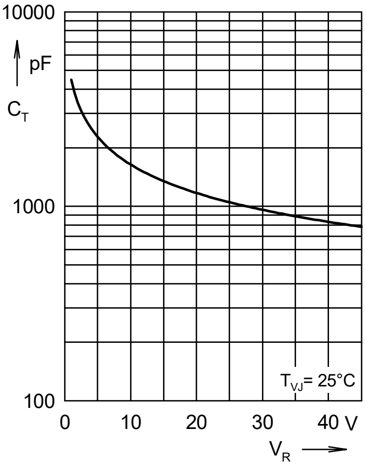

Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

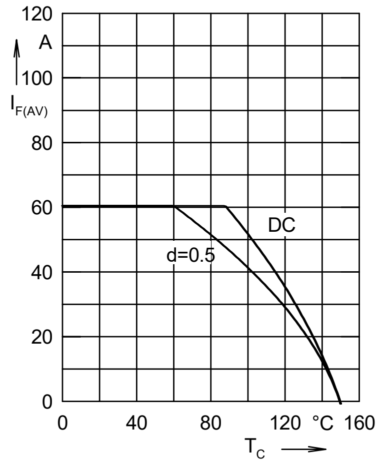

Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

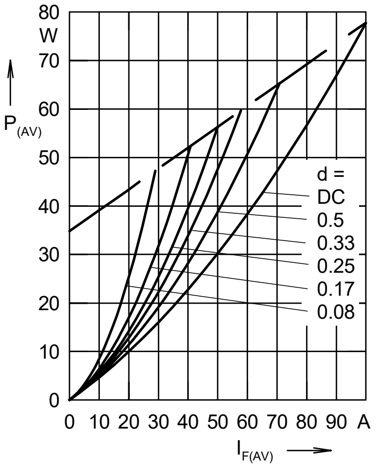

Fig. 5 Forward power loss characteristics

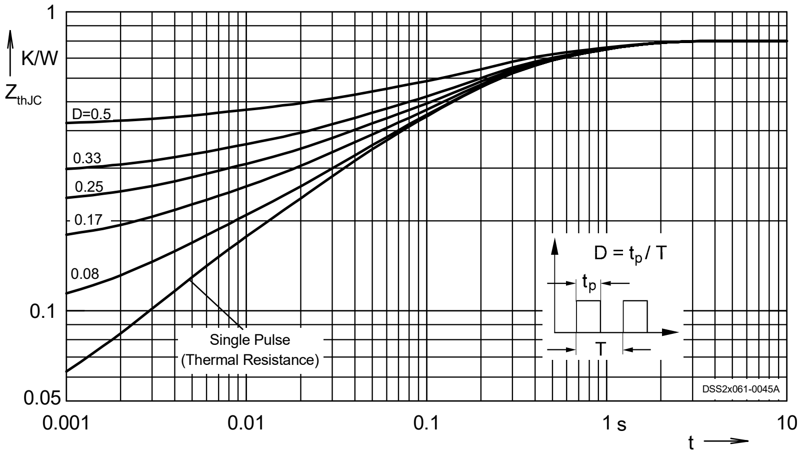

Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode