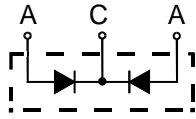
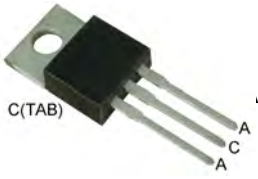


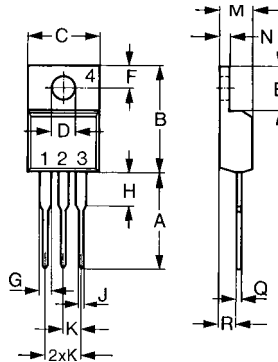
MBR20100CT

High T_{jm} Low IRRM Schottky Barrier Diodes



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-220AB



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.38	0.56	0.015	0.022
R	2.29	2.79	0.090	0.110

	V _{RSM}	V _{RSM}
	V	V
MBR20100CT	100	100

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}		35	
I_{FAV}	T _C =165°C; rectangular, d=0.5	10	A
I_{FAV}	T _C =165°C; rectangular, d=0.5; per device	20	
I_{FSM}	T _{VJ} =45°C; t _p =10ms (50Hz), sine	150	A
E_{AS}	I _{AS} =8A; L=180uH; T _{VJ} =25°C; non-repetitive	7	mJ
I_{AR}	V _A =1.5·V _{RRM} typ.; f=10kHz; repetitive	0.8	A
(dv/dt)_{cr}		5000	V/us
T_{VJ}		-55...+175	°C
T_{VJM}		175	
T_{stg}		-55...+150	
P_{tot}	T _C =25°C	90	W
M_d	mounting torque	0.4...0.6	Nm
Weight	typical	2	g

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	T _{VJ} =25°C; V _R =V _{RRM} T _{VJ} =125°C; V _R =V _{RRM}		0.1 100	mA
V_F	I _F =10A; T _{VJ} =125°C I _F =10A; T _{VJ} =25°C I _F =20A; T _{VJ} =125°C		0.65 0.80 0.77	V
R_{thJC} R_{thCH}		0.5	1.7	K/W

FEATURES

- * International standard package
- * 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



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High T_{jm} Low IRRM Schottky Barrier Diodes

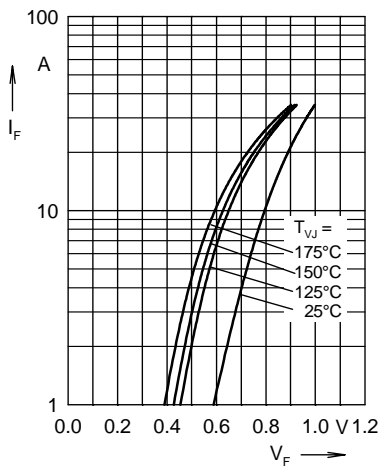


Fig. 1 Maximum forward voltage drop characteristics

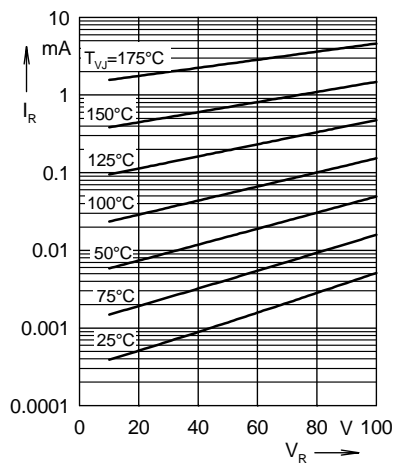


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

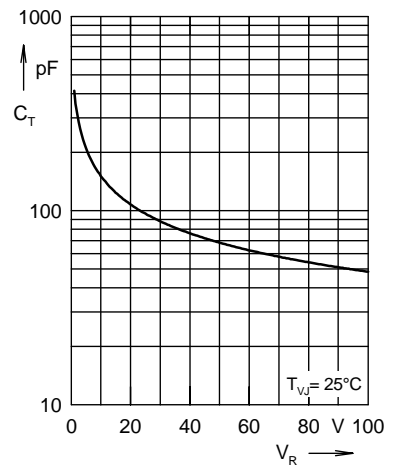


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

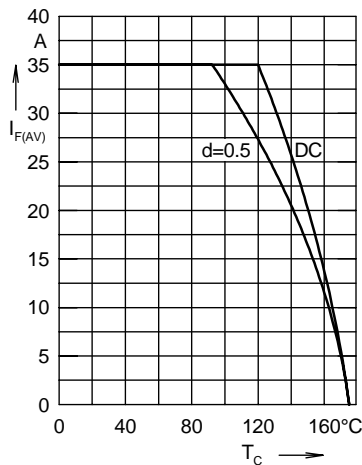


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_c

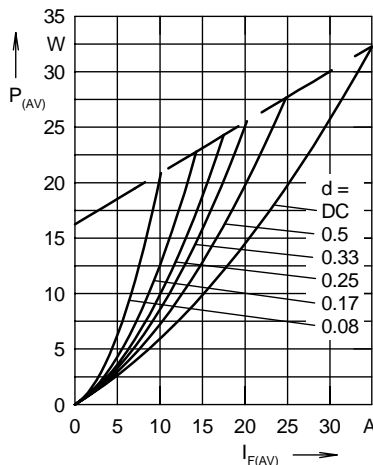


Fig. 5 Forward power loss characteristics

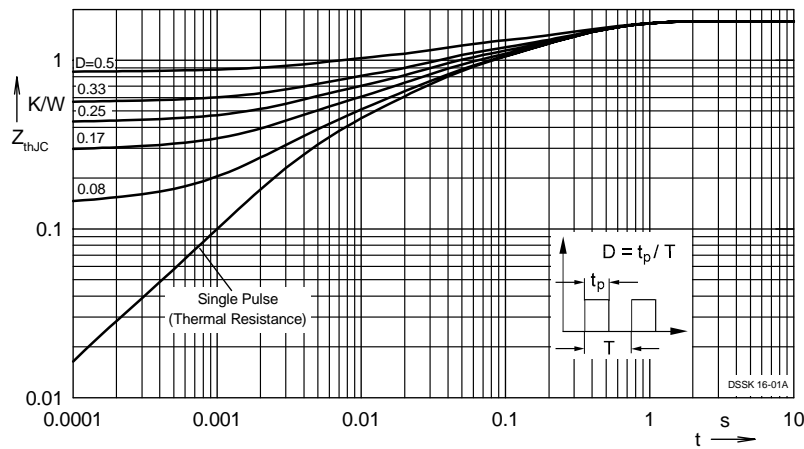


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per Diode

