

FEATURES

- * International standard package
- * Copper Base Plate
- * Planar passivated chips
- * Isolation voltage 3600 V~

APPLICATIONS

- * Supplies for DC power equipment
- * DC supply for PWM inverter
- * Field supply for DC motors
- * Battery DC power supplies

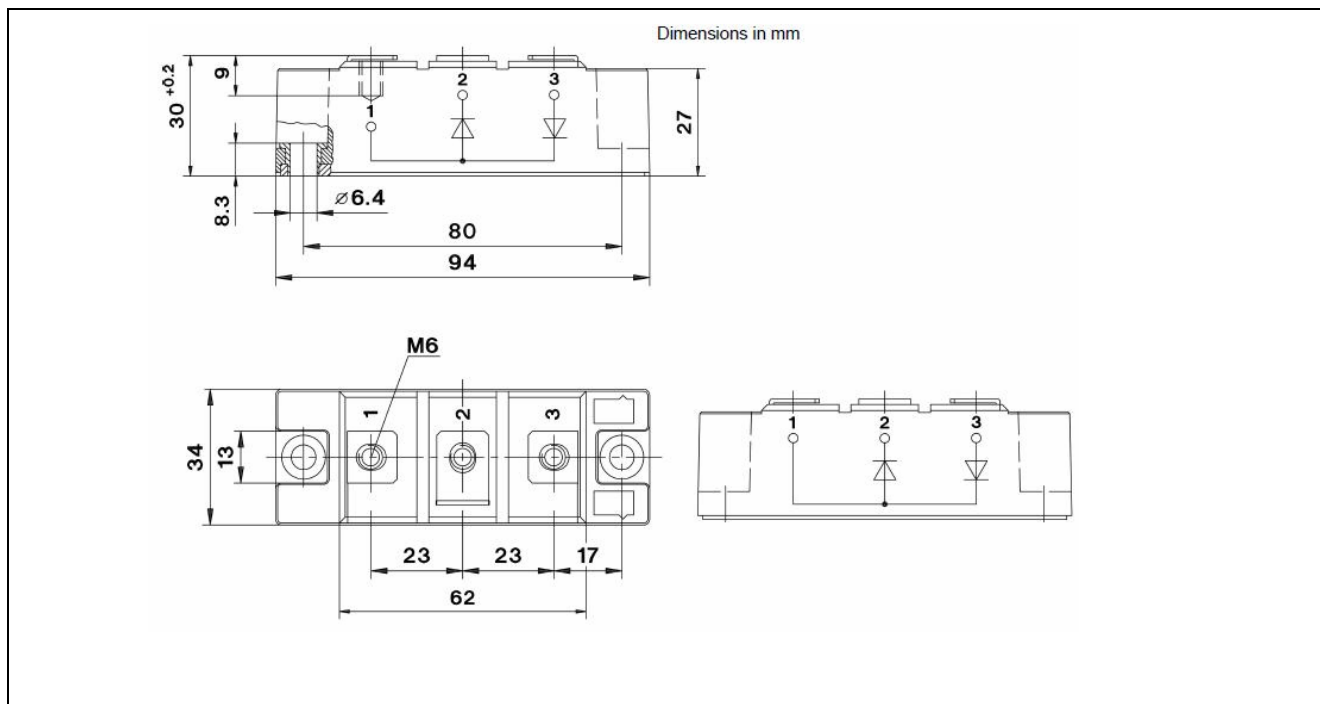
ADVANTAGES

- * Space and weight savings
- * Simple mounting
- * Improved temperature and power cycling
- * Reduced protection circuits

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	$T_{VJ}=T_{VJM}$ $T_C=85^{\circ}\text{C}$; 180° sine	320 200	A
I_{FSM}	$T_{VJ}=45^{\circ}\text{C}$ t=10ms (50Hz), sine $V_R=0$ t=8.3ms (60Hz), sine	4700 5000	A
	$T_{VJ}=T_{VJM}$ t=10ms(50Hz), sine $V_R=0$ t=8.3ms(60Hz), sine	4100 4300	
i_{zdt}	$T_{VJ}=45^{\circ}\text{C}$ t=10ms (50Hz), sine $V_R=0$ t=8.3ms (60Hz), sine	110000 104000	A2s
	$T_{VJ}=T_{VJM}$ t=10ms(50Hz), sine $V_R=0$ t=8.3ms(60Hz), sine	84000 77000	
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+125	°C
V_{ISOL}	50/60Hz, RMS t=1min $I_{ISOL}<1\text{mA}$ t=1s	3000 3600	V~
M_d	Mounting torque (M5) Terminal connection torque (M5)	2.5-4.0/22-35 2.5-4.0/22-35	Nm/lb.in.
Weight	Typical including screws	0.3	kg

Symbol	Test Conditions	Maximum Ratings	Unit
IRRM, IDRM	TVJ=TVJM; VR=VRRM; VD=VDRM	20	mA
VT, VF	IT, IF=200A; TVJ=25oC	1.20	V
VTO	For power-loss calculations only (TVJ=125oC)	0.8	V
rT		1.3	mΩ
QS	TVJ=TVJM; IT, IF=25A; -di/dt=0.64A/us	550	uC
IRM		235	A
RthJC	per thyristor/diode; DC current per module	0.21 0.105	K/W
RthJK	per thyristor/diode; DC current per module	0.31 0.155	K/W
dS	Creeping distance on surface	12.7	mm
dA	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s2

Outline Table



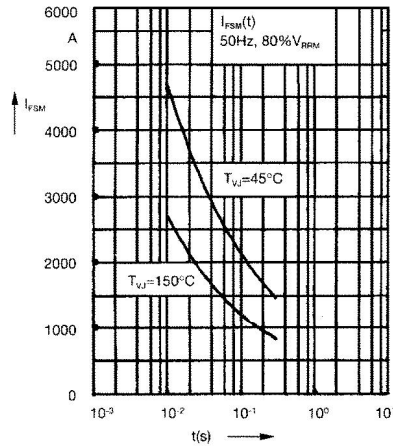


Fig. 1 Surge overload current
 I_{FSM} : Crest value, t : duration

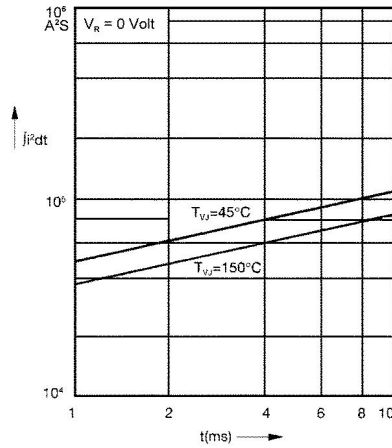


Fig. 2 $\int I^2 dt$ versus time (1-10 ms)

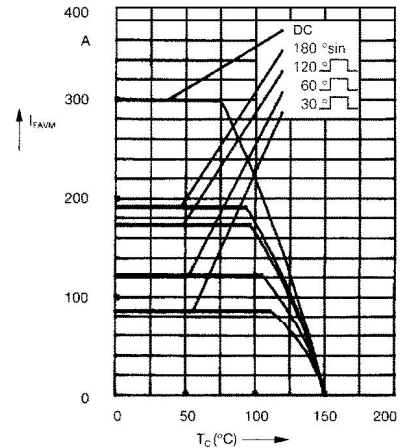


Fig. 2a Maximum forward current
at case temperature

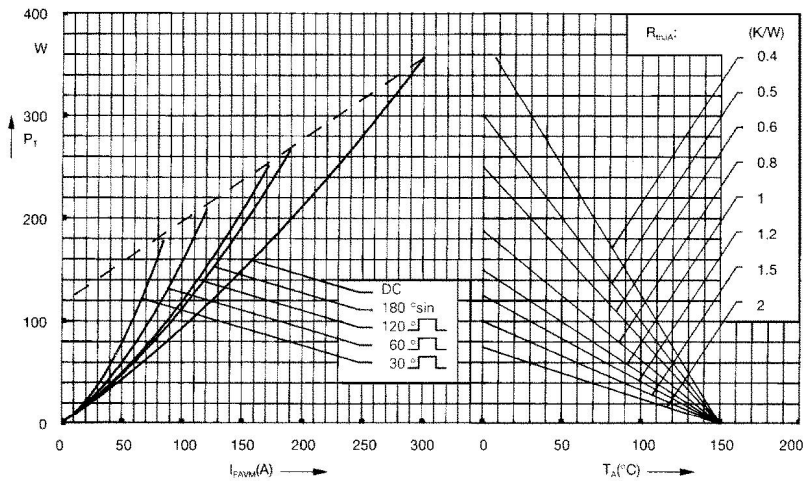


Fig. 3 Power dissipation versus
forward current and ambient
temperature (per diode)

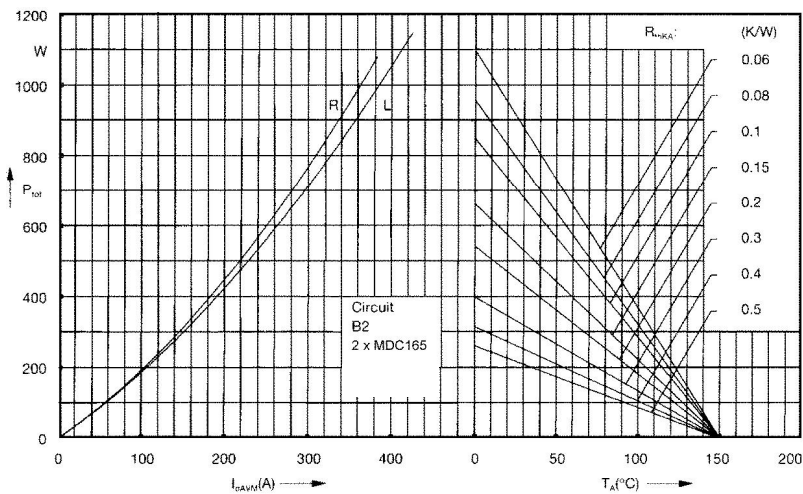


Fig. 4 Single phase rectifier bridge:
Power dissipation versus direct
output current and ambient
temperature
R = resistive load
L = inductive load

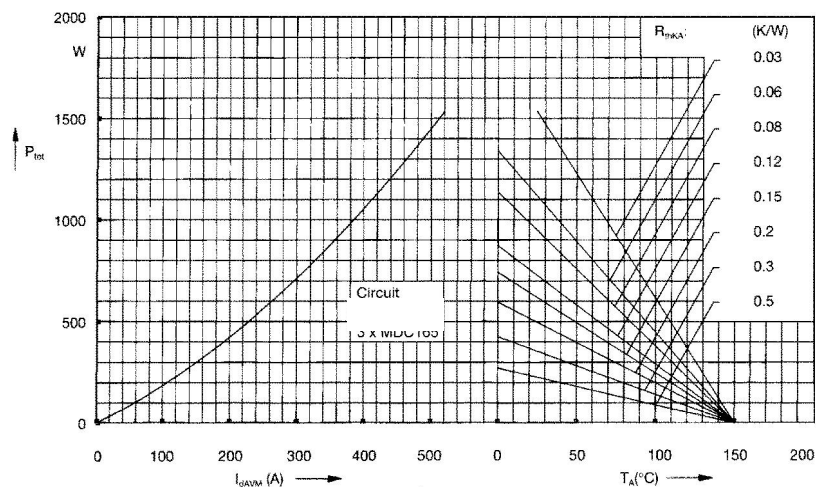


Fig. 5 Three phase rectifier bridge:
Power dissipation versus direct
output current and ambient
temperature

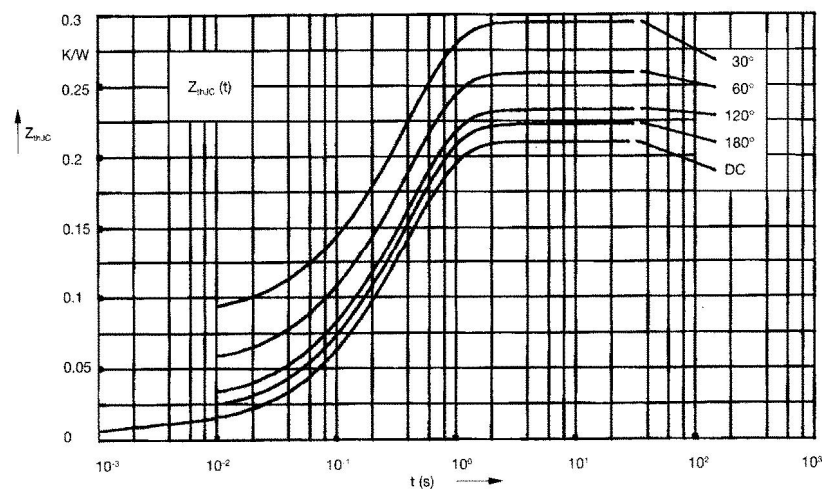


Fig. 6 Transient thermal impedance
junction to case (per diode)

$R_{\theta JC}$ for various conduction angles d:

d	$R_{\theta JC}$ (K/W)
DC	0.210
180°C	0.223
120°C	0.233
60°C	0.260
30°C	0.295

Constants for $Z_{\theta JC}$ calculation:

i	$R_{\theta i}$ (K/W)	t_i (s)
1	0.0087	0.001
2	0.0163	0.065
3	0.185	0.4

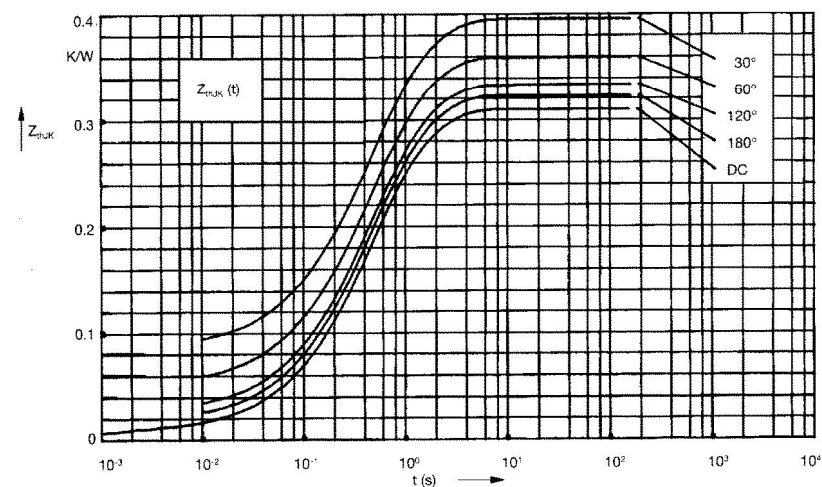


Fig. 7 Transient thermal impedance
junction to heatsink (per diode)

$R_{\theta JK}$ for various conduction angles d:

d	$R_{\theta JK}$ (K/W)
DC	0.31
180°C	0.323
120°C	0.333
60°C	0.360
30°C	0.395

Constants for $Z_{\theta JK}$ calculation:

i	$R_{\theta i}$ (K/W)	t_i (s)
1	0.0087	0.001
2	0.0163	0.065
3	0.185	0.4
4	0.1	1.29