

IXYS

Diode Modules

MDD310 $I_{TAV} = 2 \times 305 \text{ A}$
 $V_{RRM} = 600\text{--}1600 \text{ V}$

V_{RSM}	V_{RRM}	Type	Threaded spacer for higher Anode/ Cathode construction: Type ZY 250, material brass
V	V	Version 1	
700	800	MDD310-06N1	

MDD310

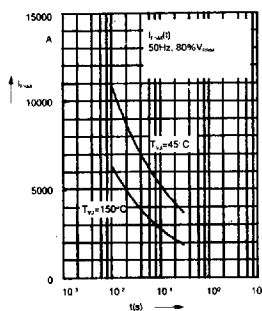


Fig. 1 Surge overload current
 I_{TSM} : Crest value, t : duration

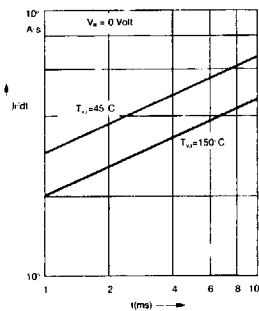


Fig. 2 $Jt \text{ dt}$ versus time (1-10ms)

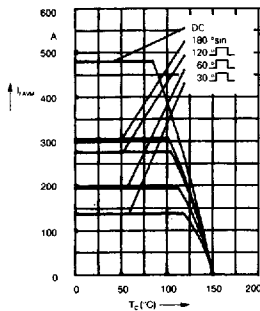


Fig. 2a Maximum forward current at case temperature

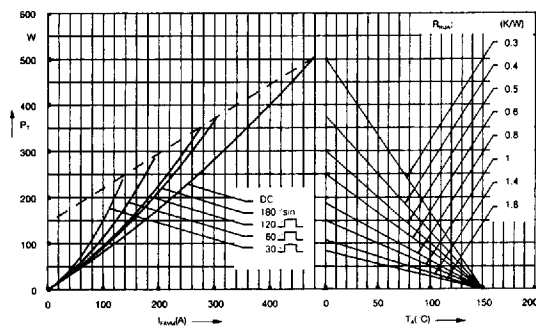


Fig. 3 Power dissipation versus forward current and ambient temperature (per diode)

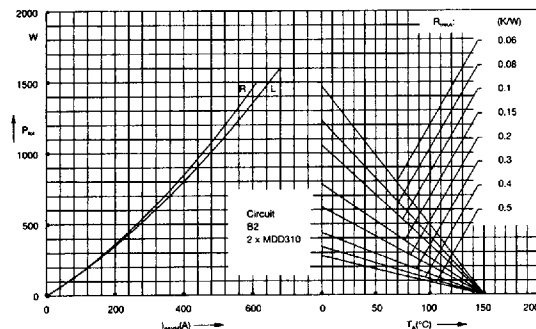


Fig. 4 Single phase rectifier bridge:
Power dissipation versus direct output current and ambient temperature
 R =resistive load
 L =inductive load

MDD310

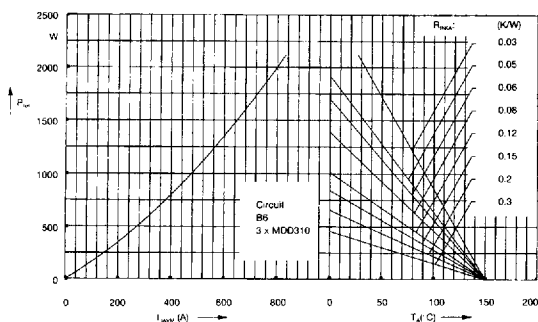


Fig. 5 Three phase rectifier bridge: Power dissipation versus direct output current and ambient temperature

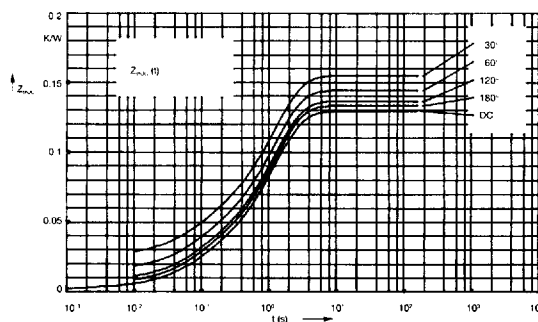


Fig. 6 Transient thermal impedance junction to case (per diode)

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

d	$R_{\theta JC}$ (K/W)
DC	0.129
180°	0.133
120°	0.136
60°	0.145
30°	0.159

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

i	$R_{\theta i}$ (K/W)	t_i (s)
1	0.0026	0.00054
2	0.0201	0.099
3	0.1063	1.2

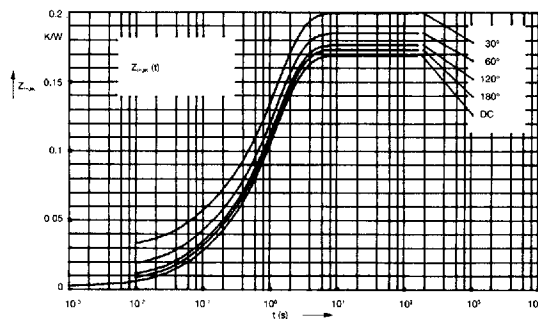


Fig. 7 Transient thermal impedance junction to heatsink (per diode)

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

d	$R_{\theta JK}$ (K/W)
DC	0.169
180°	0.173
120°	0.176
60°	0.185
30°	0.199

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

i	$R_{\theta i}$ (K/W)	t_i (s)
1	0.0026	0.00054
2	0.0201	0.099
3	0.1063	1.20
4	0.04	1.25