

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

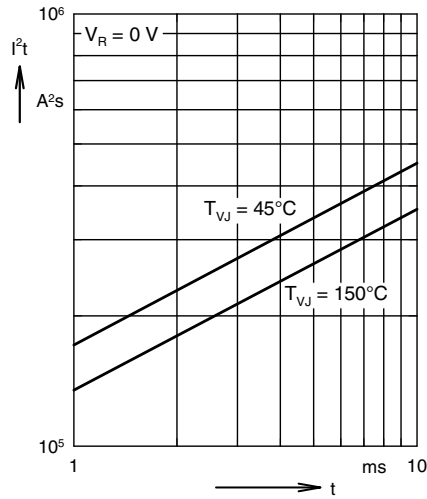


Fig. 2  $I^2t$  versus time (1-10 ms)

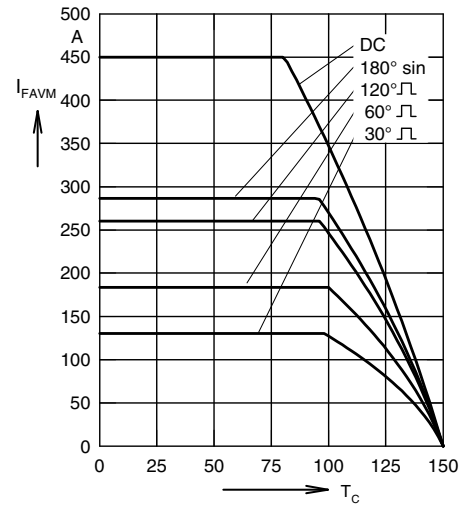


Fig. 3 Maximum forward current at case temperature

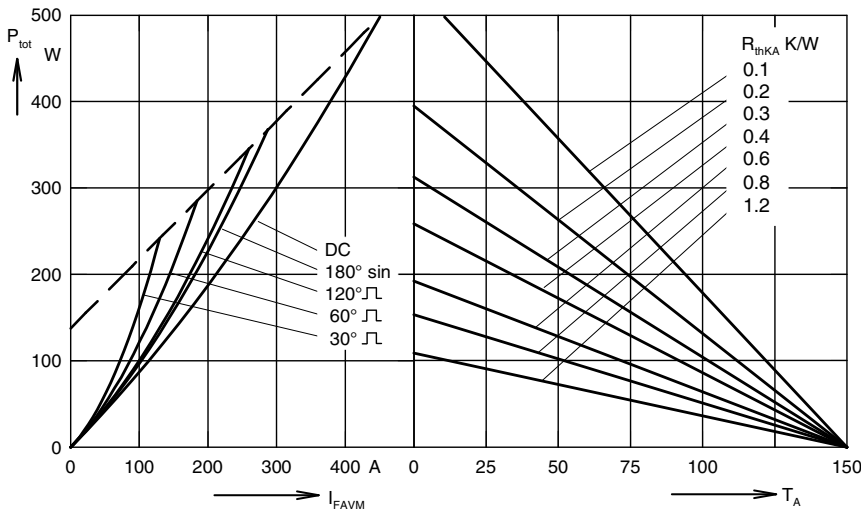


Fig. 4 Power dissipation vs. forward current and ambient temperature (per diode)

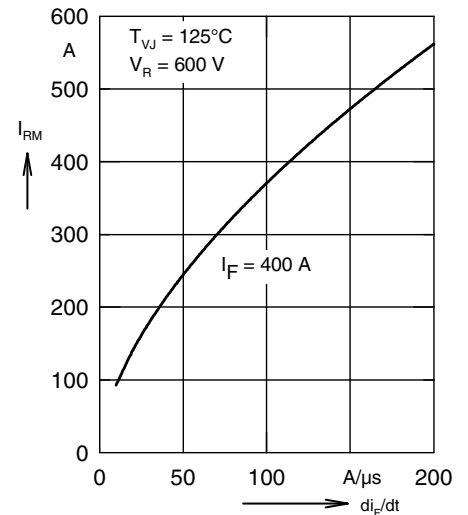


Fig. 5 Typ. peak reverse current  $I_{RM}$  versus  $-di_F/dt$

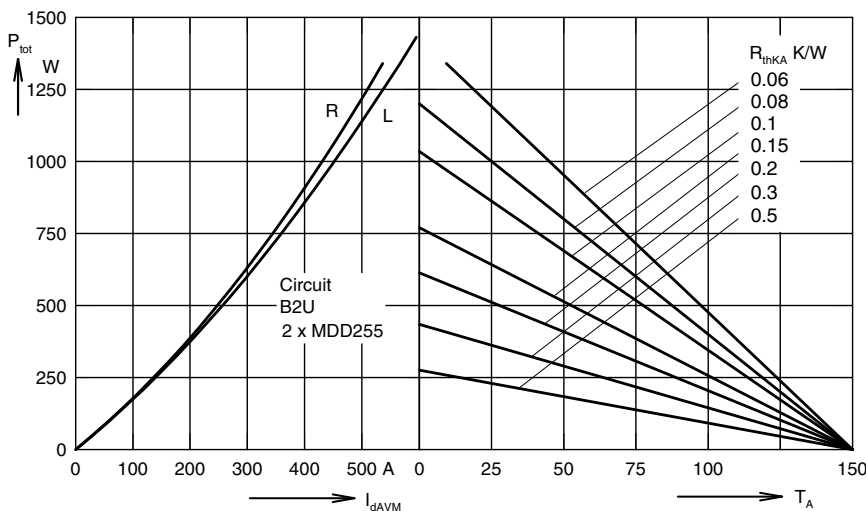


Fig. 6 Single phase rectifier bridge: Power dissipation vs. direct output current and ambient temperature  
 R = resistive load, L = inductive load

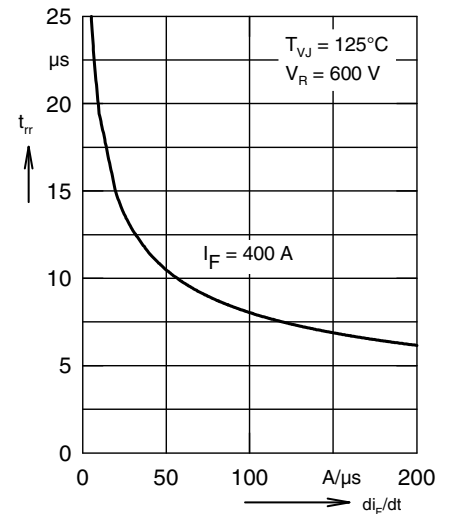


Fig. 7 Typ. recovery time  $t_{tr}$  versus  $-di_F/dt$

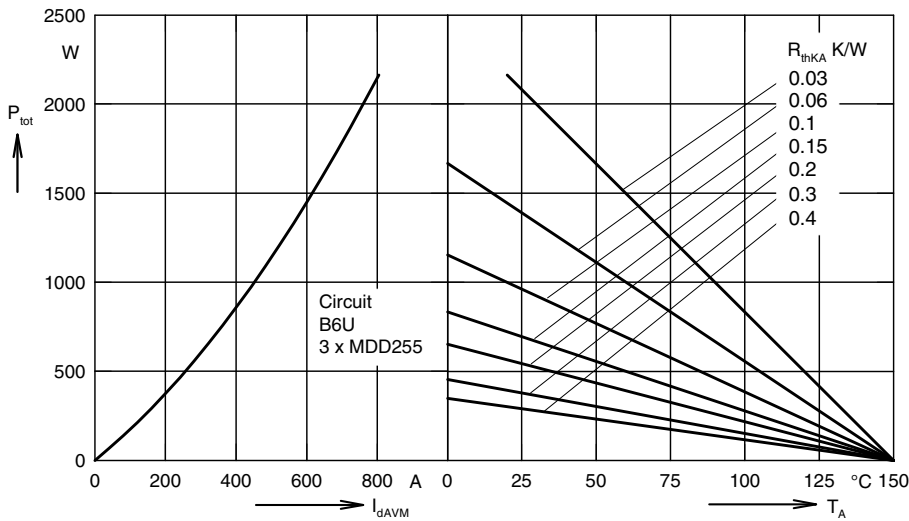


Fig. 8 Three phase rectifier bridge: Power dissipation vs. direct output current and ambient temperature

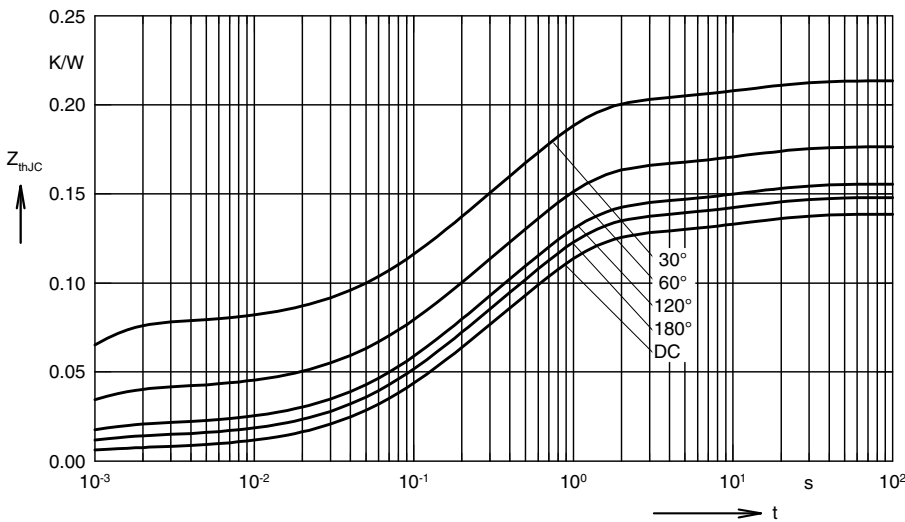


Fig. 9 Transient thermal impedance junction to case (per diode)

$R_{thJC}$  for various conduction angles d:

d	$R_{thJC}$ (K/W)
DC	0.139
180°	0.148
120°	0.156
60°	0.176
30°	0.214

Constants for  $Z_{thJC}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.0066	0.00054
2	0.0358	0.098
3	0.0831	0.54
4	0.0129	12

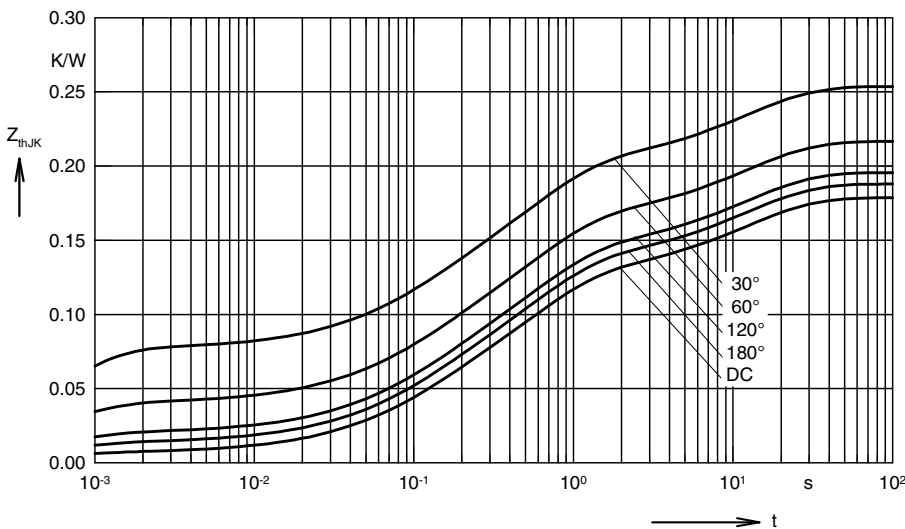


Fig. 10 Transient thermal impedance junction to heatsink (per diode)

$R_{thJK}$  for various conduction angles d:

d	$R_{thJK}$ (K/W)
DC	0.179
180°	0.188
120°	0.196
60°	0.216
30°	0.254

Constants for  $Z_{thJK}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.0066	0.00054
2	0.0358	0.098
3	0.0831	0.54
4	0.0129	12
5	0.04	12