Symbol	Conditions		Characteristic Values		
I_R, I_D	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$; $V_D = V_{DRM}$		$\leq$	5	mA
V_T	I_T = 80 A; $T_{VJ} = 25°C$		$\leq$	1.64	V
V_{T0}	For power-loss calculations only ($T_{VJ} = 125°C$)			0.85	V
r_T				11	$m\Omega$
V_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	1.5	V
		$T_{VJ} = -40°C$	$\leq$	1.6	V
I_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	100	mA
		$T_{VJ} = -40°C$	$\leq$	200	mA
V_{GD}	$T_{VJ} = T_{VJM}$;	$V_D = {}^2/_3\, V_{DRM}$	$\leq$	0.2	V
I_{GD}			$\leq$	10	mA
I_L	$T_{VJ} = 25°C$; $t_P = 10$ µs		$\leq$	150	mA
	$I_G = 0.3$ A; $di_G/dt = 0.3$ A/µs				
I_H	$T_{VJ} = 25°C$; $V_D = 6$ V; $R_{GK} = \infty$		$\leq$	100	mA
t_{gd}	$T_{VJ} = 25°C$; $V_D = ½\, V_{DRM}$		$\leq$	2	µs
	$I_G = 0.3$ A; $di_G/dt = 0.3$ A/µs				
R_{thJC}	DC current			0.62	K/W
R_{thJH}	DC current			0.82	K/W
a	Max. acceleration, 50 Hz			50	m/s²
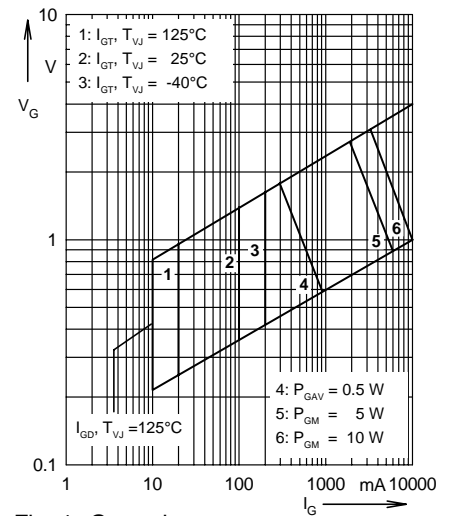
Fig. 1 Gate trigger range
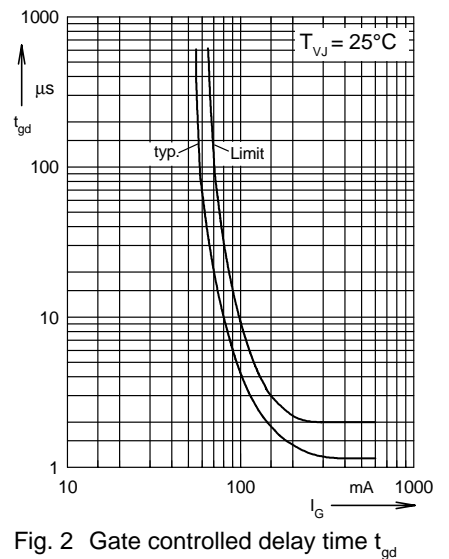
Fig. 2 Gate controlled delay time t_{gd}

TO-247 AD and ISOPLUS 247™
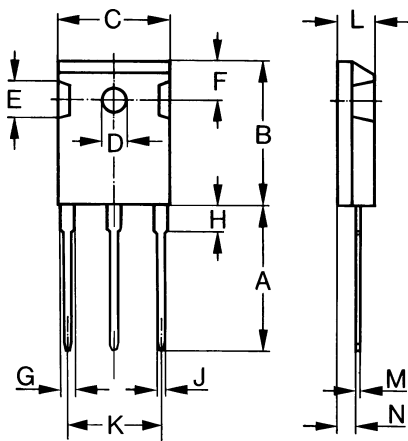
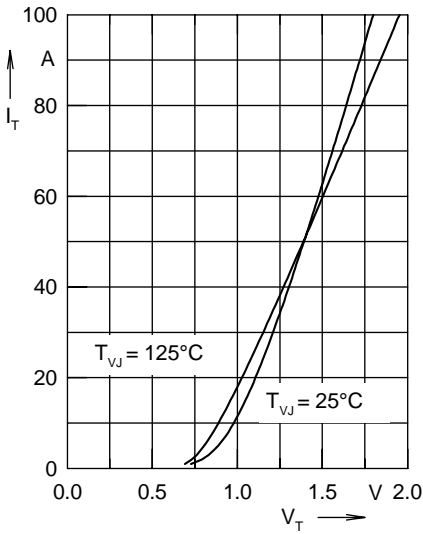| Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D*	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

* ISOPLUS 247™ without hole
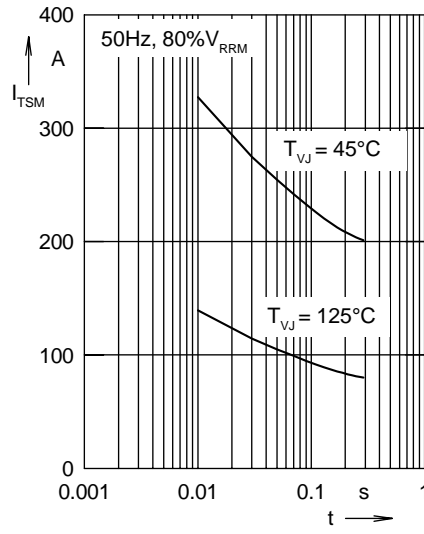
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Fig. 3 Forward characteristics

Fig. 4 Surge overload current
I_{TSM}: crest value, t: duration

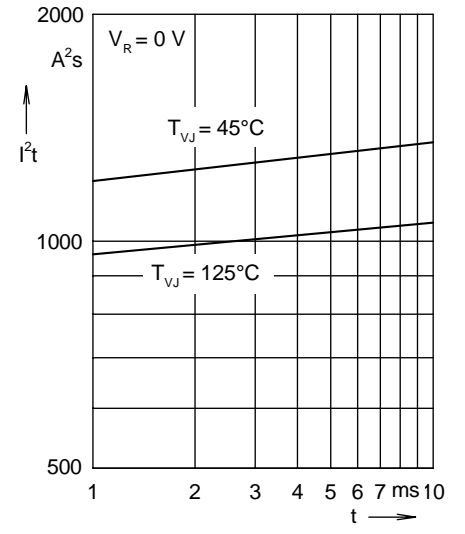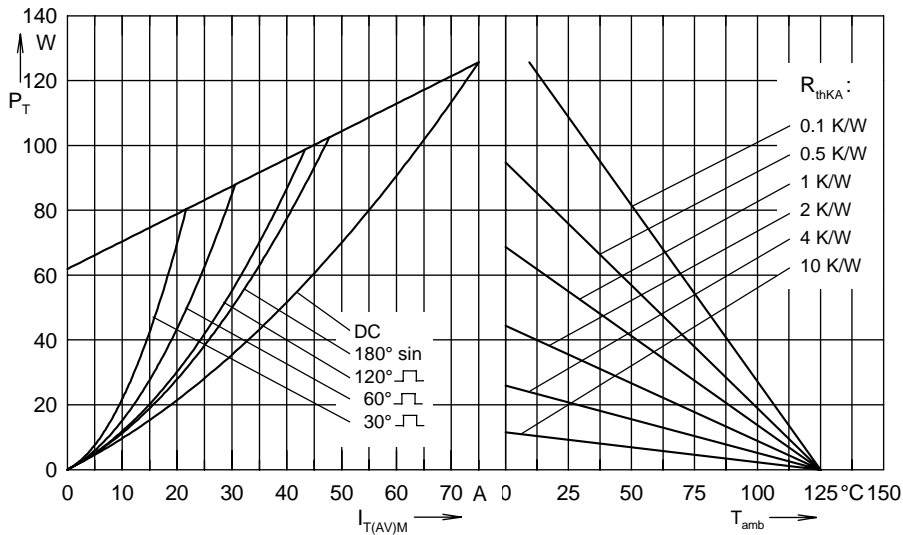
Fig. 5 I²t versus time (1-10 ms)

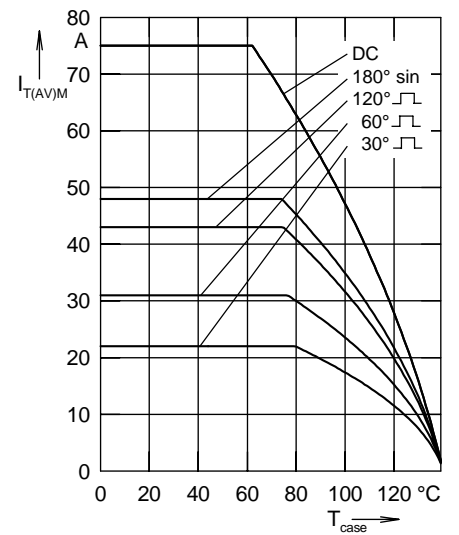Fig. 6 Power dissipation versus forward current and ambient temperature
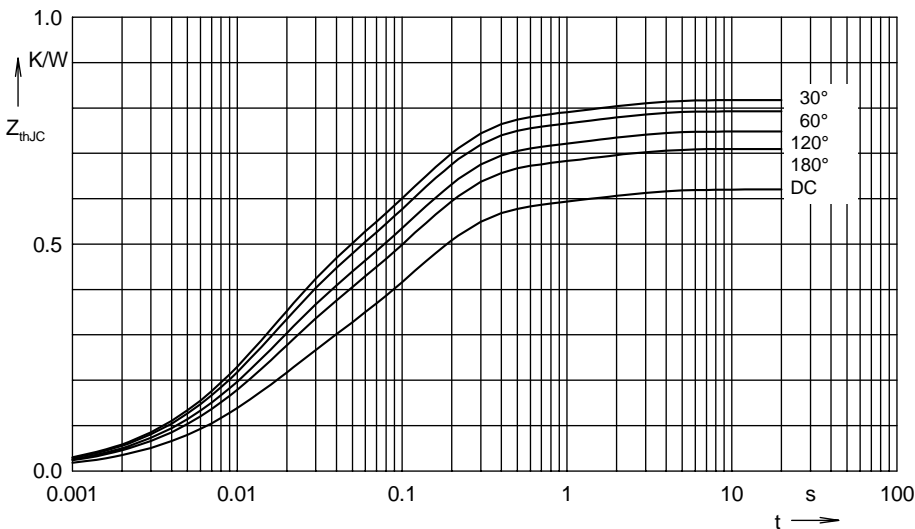

Fig. 7 Max. forward current at case
temperature

R_{thJC} for various conduction angles d:

d	R_{thJC} (K/W)
DC	0.62
180°	0.71
120°	0.748
60°	0.793
30°	0.817

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.206	0.013
2	0.362	0.118
3	0.052	1.488

Fig. 8 Transient thermal impedance junction to case

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