

Thermal Characteristics

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics					
Thermal resistance, junction - case	R_{thJC}	-	-	1.7	K/W
Thermal resistance, junction - ambient, leaded	R_{thJA}	-	-	62	

Electrical Characteristics, at $T_j = 25^\circ\text{C}$, unless otherwise specified

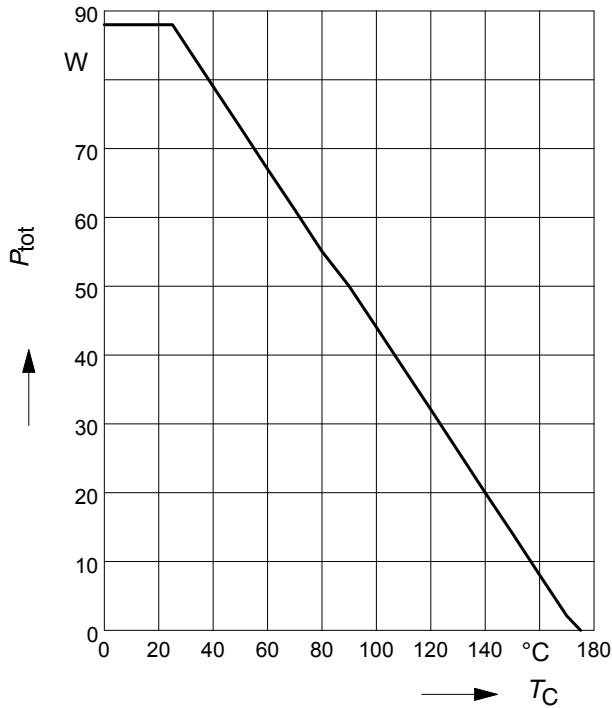
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Static Characteristics					
Diode forward voltage $I_F=12A, T_j=25^{\circ}C$ $I_F=12A, T_j=150^{\circ}C$	V_F	- -	1.5 1.7	1.7 2.1	V
Reverse current $V_R=600V, T_j=25^{\circ}C$ $V_R=600V, T_j=150^{\circ}C$	I_R	- -	40 100	400 2000	μA

Electrical Characteristics, at $T_j = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Total capacitive charge $V_R=400V, I_F=12A, di_F/dt=200A/\mu s, T_j=150^{\circ}C$	Q_C	-	30	-	nC
Switching time $V_R=400V, I_F=12A, di_F/dt=200A/\mu s, T_j=150^{\circ}C$	t_{rr}	-	n.a.	-	ns
Total capacitance $V_R=1V, T_C=25^{\circ}C, f=1MHz$ $V_R=300V, T_C=25^{\circ}C, f=1MHz$ $V_R=600V, T_C=25^{\circ}C, f=1MHz$	C	- - -	450 45 43	- - -	pF

1 Power dissipation

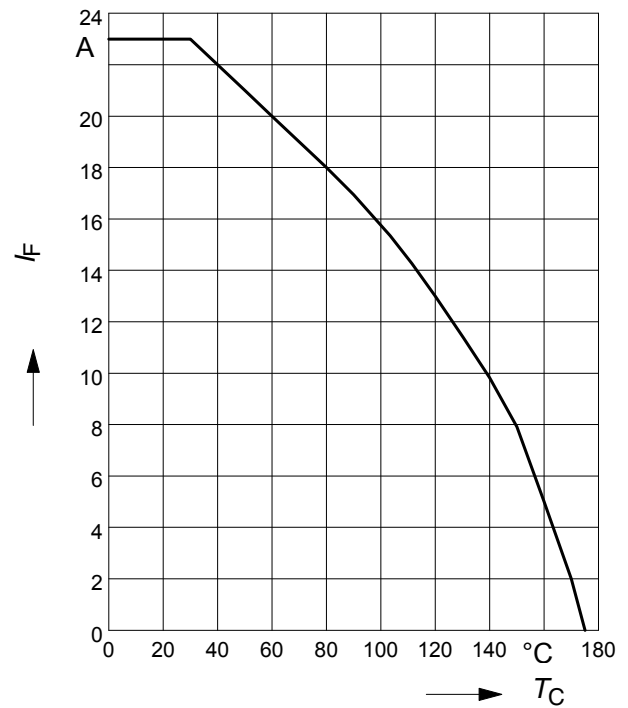
$$P_{\text{tot}} = f(T_C)$$



2 Diode forward current

$$I_F = f(T_C)$$

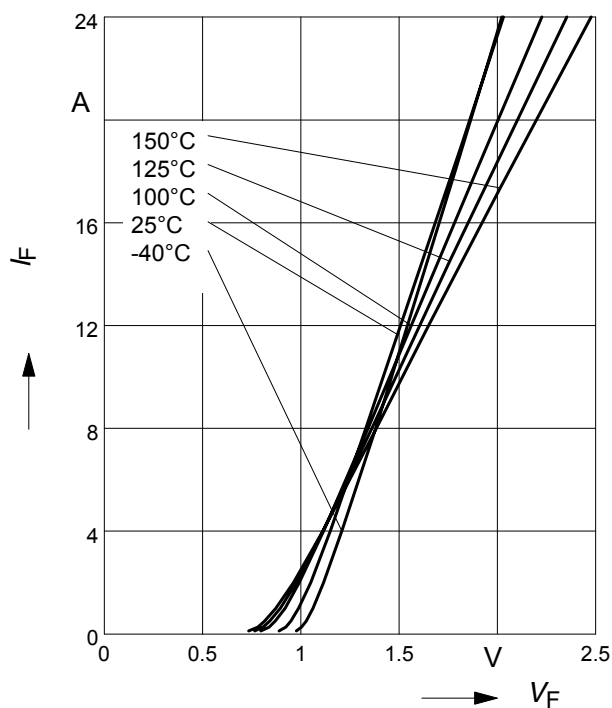
parameter: $T_j \leq 175^\circ\text{C}$



3 Typ. forward characteristic

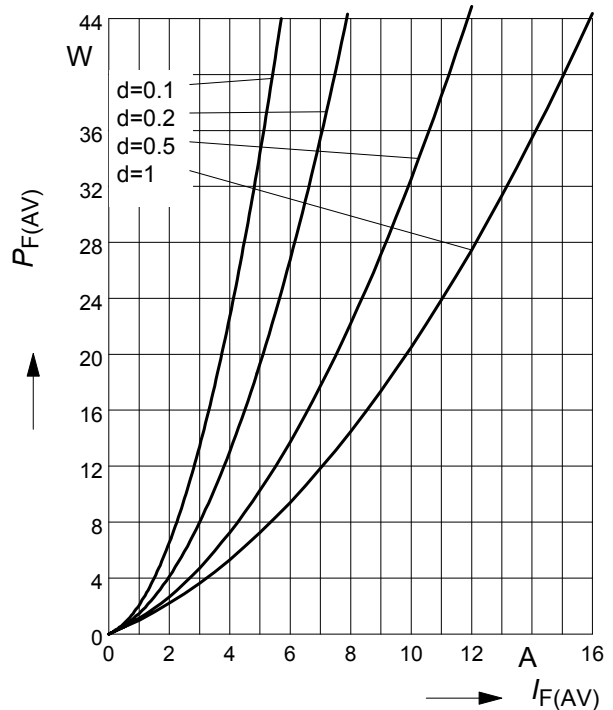
$$I_F = f(V_F)$$

parameter: T_j , $t_p = 350 \mu\text{s}$



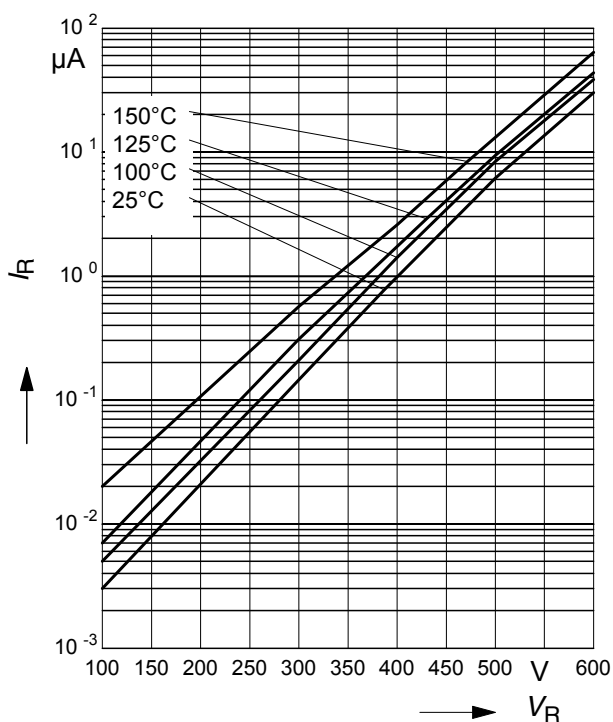
4 Typ. forward power dissipation vs. average forward current

$$P_{F(AV)} = f(I_F) \quad T_C = 100^\circ\text{C}, d = t_p/T$$



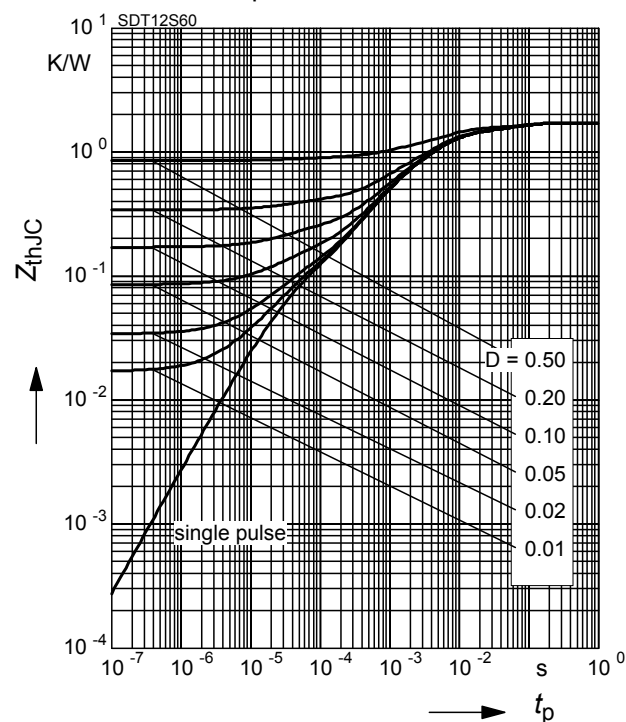
5 Typ. reverse current vs. reverse voltage

$$I_R = f(V_R)$$


6 Transient thermal impedance

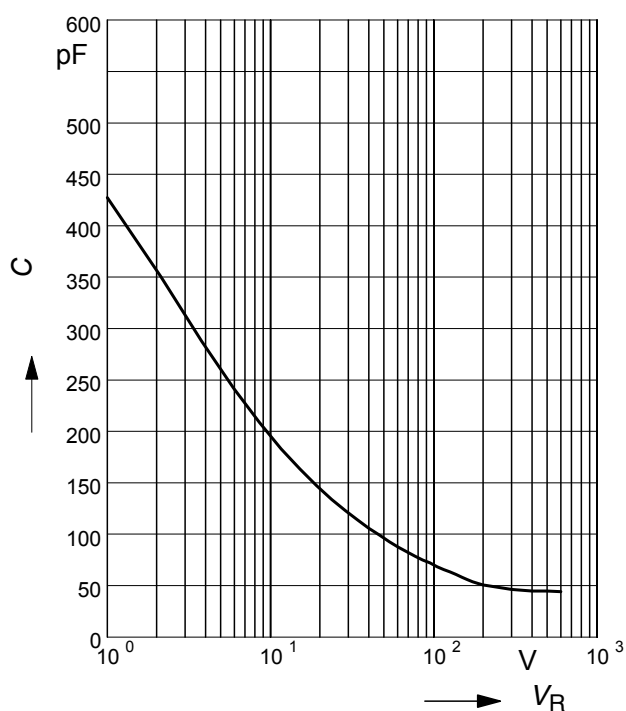
$$Z_{thJC} = f(t_p)$$

$$\text{parameter: } D = t_p/T$$

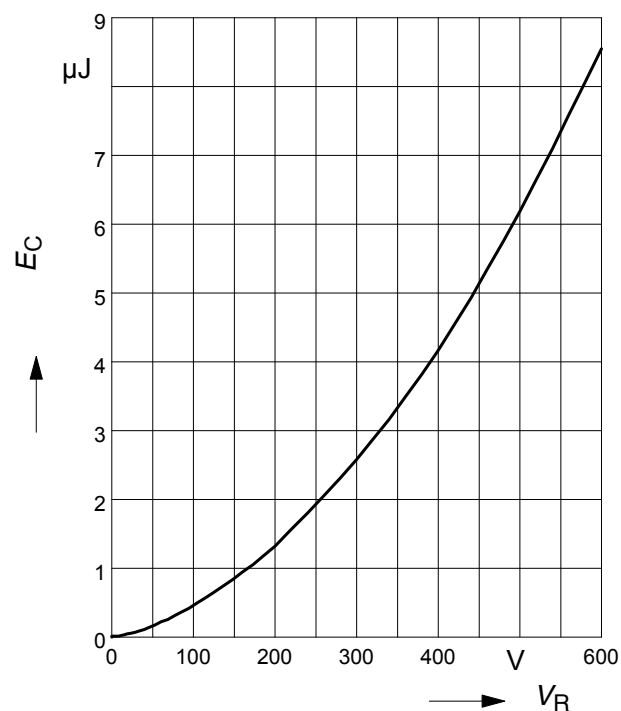

7 Typ. capacitance vs. reverse voltage

$$C = f(V_R)$$

parameter: $T_C = 25^\circ C$, $f = 1$ MHz


8 Typ. C stored energy

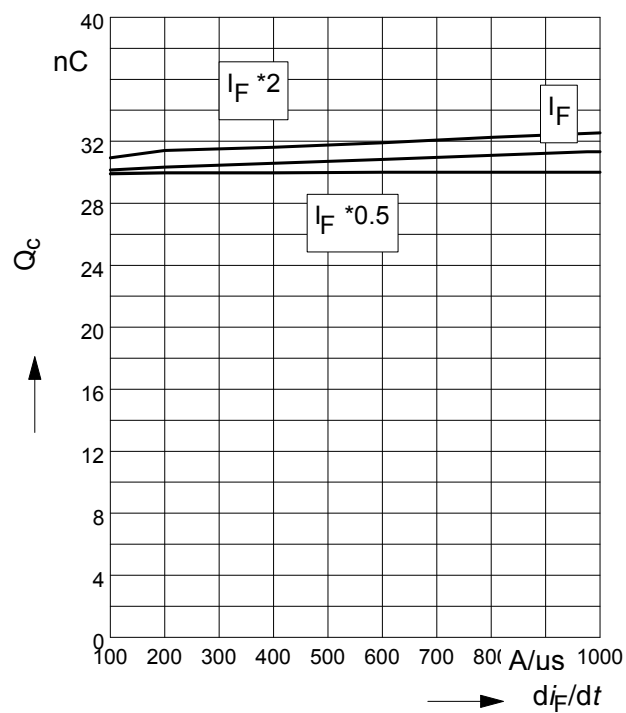
$$E_C = f(V_R)$$



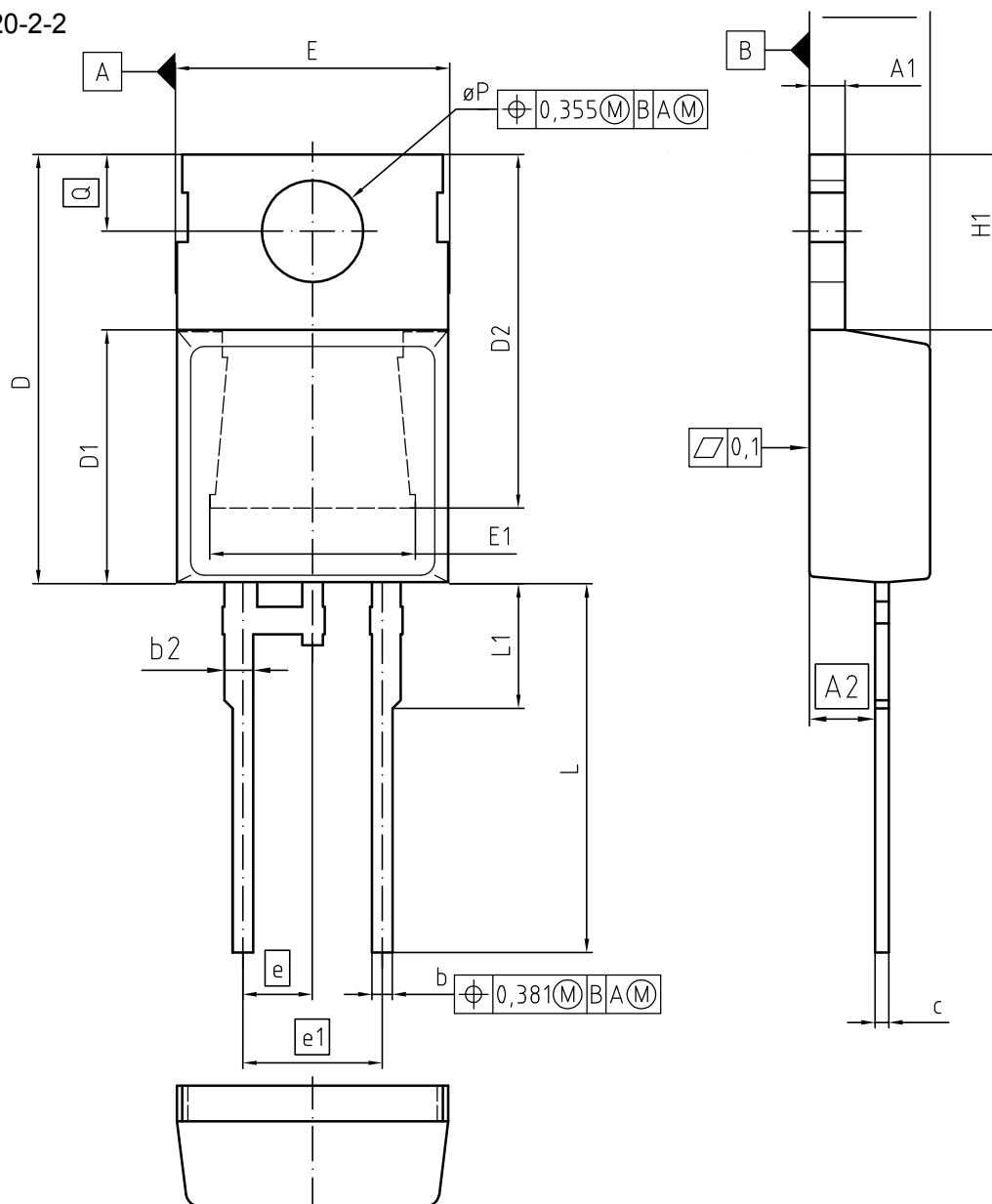
9 Typ. capacitive charge vs. current slope

$$Q_c = f(di_F/dt)$$

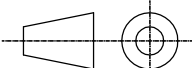
parameter: $T_j = 150\text{ }^{\circ}\text{C}$



PG-TO-220-2-2



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.191	4.699	0.165	0.185
A1	1.170	1.400	0.046	0.055
A2	2.215	2.718	0.087	0.107
b	0.635	0.889	0.025	0.035
b2	0.950	1.651	0.037	0.065
c	0.330	0.635	0.013	0.025
D	14.808	15.950	0.583	0.628
D1	8.509	9.450	0.335	0.372
D2	12.850	14.245	0.506	0.561
E	9.677	10.363	0.381	0.408
E1	6.500	8.788	0.256	0.346
e	2.540		0.100	
e1	5.080		0.200	
N	2		2	
H1	5.900	6.900	0.232	0.272
L	12.700	14.000	0.500	0.551
L1	3.048	4.800	0.120	0.189
øP	3.550	3.886	0.140	0.153
Q	2.540	3.048	0.100	0.120

DOCUMENT NO. Z8B00003320
SCALE 0 2.5 5mm
EUROPEAN PROJECTION 
ISSUE DATE 28-02-2007
REVISION 02

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Infineon Technologies AG
81726 Munich, Germany
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