

Source-Drain Diode

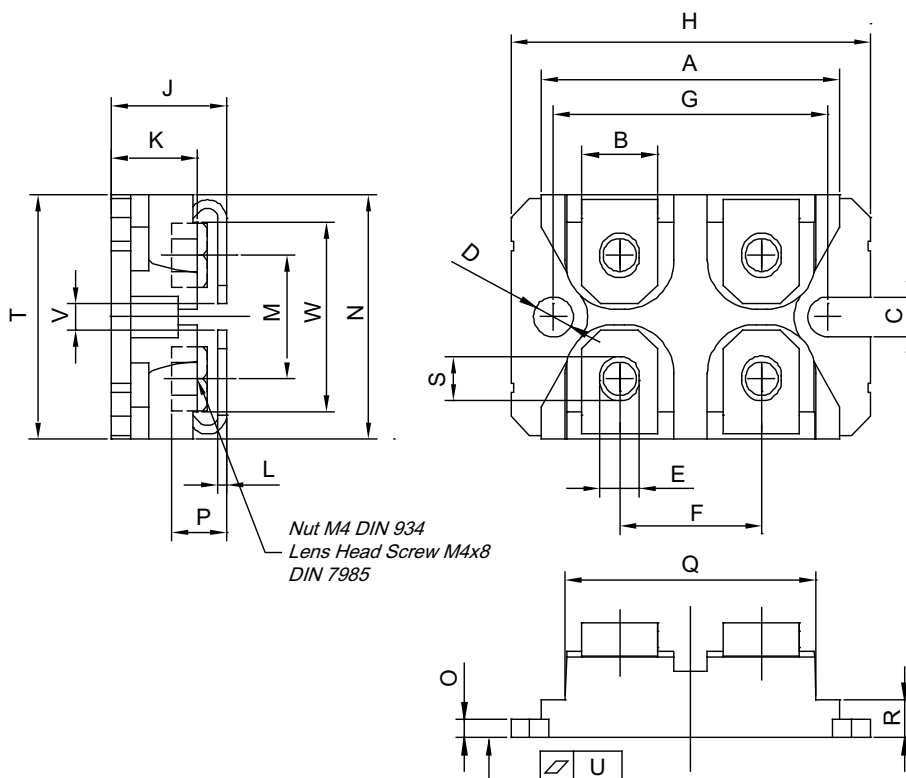
Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
I_S	$V_{GS} = 0\text{ V}$			85
I_{SM}				250
V_{SD}	$I_F = 85\text{ A}; V_{GS} = 0\text{ V}$			1.2
t_{rr}	$I_F = 85\text{ A}; -di_F/dt = 200\text{ A}/\mu\text{s}; V_R = 350\text{ V}$	580		ns
Q_{RM}		46		μC
I_{RM}		140		A

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}	operating	-55...+150	°C
T_{stg}		-55...+125	°C
M_d	mounting torque	1.5	Nm
	terminal connection torque (M4)	1.5	Nm

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R_{thCH}	with heatsink compound	0.1		K/W
Weight		30		g

miniBLOC, SOT-227 B Outline



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	31.50	31.88	1.240	1.255
B	7.80	8.20	.307	.323
C	4.09	4.29	.161	.169
D	4.09	4.29	.161	.169
E	4.09	4.29	.161	.169
F	14.91	15.11	.587	.595
G	30.12	30.30	1.186	1.193
H	37.80	38.23	1.489	1.505
J	11.68	12.22	.460	.481
K	8.92	9.60	.351	.378
L	0.76	0.84	.030	.033
M	12.60	12.85	.496	.506
N	25.15	25.42	.990	1.001
O	1.98	2.13	.078	.084
P	4.95	5.97	.195	.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	.155	.174
S	4.72	4.85	.186	.191
T	24.59	25.07	.968	.987
U	-.05	.10	-.002	.004
V	3.30	4.57	.130	.180
W	19.81	21.08	.780	.830

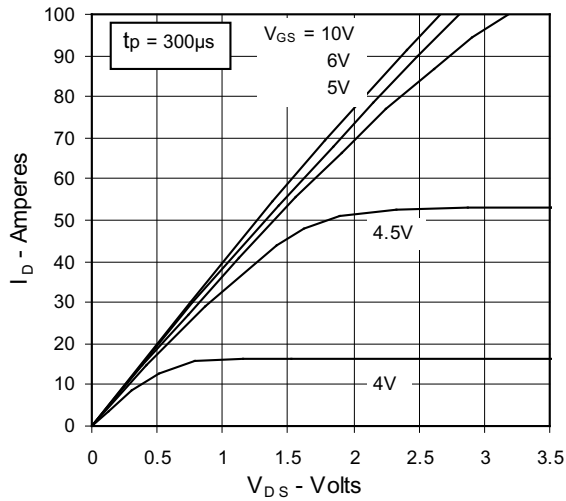


Fig. 1 Typ. output characteristics $I_D = f(V_{DS})$

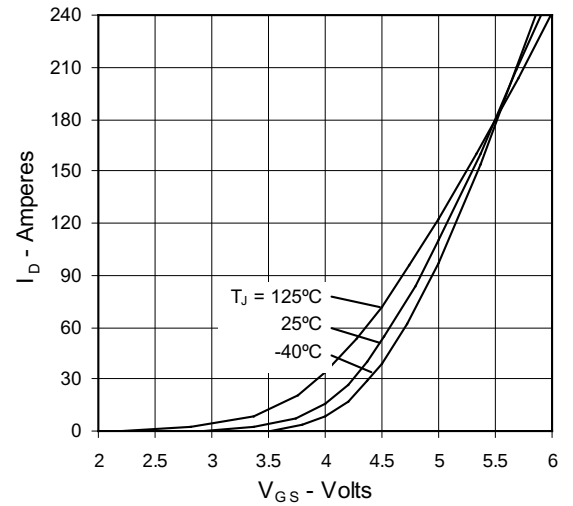


Fig. 2 Typ. transfer characteristics $I_D = f(V_{GS})$

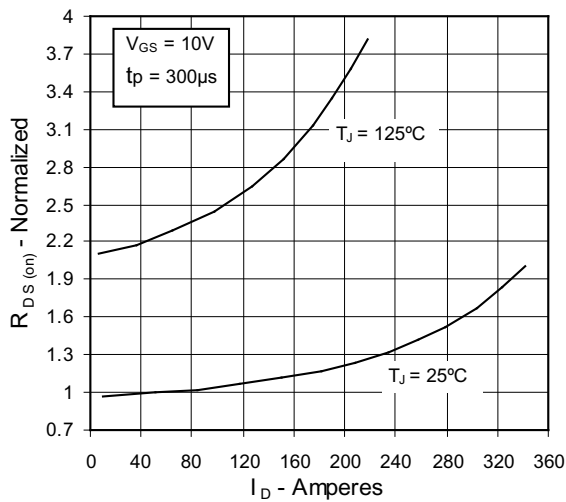


Fig. 3 Typical normalized $R_{DS(on)} = f(I_D)$

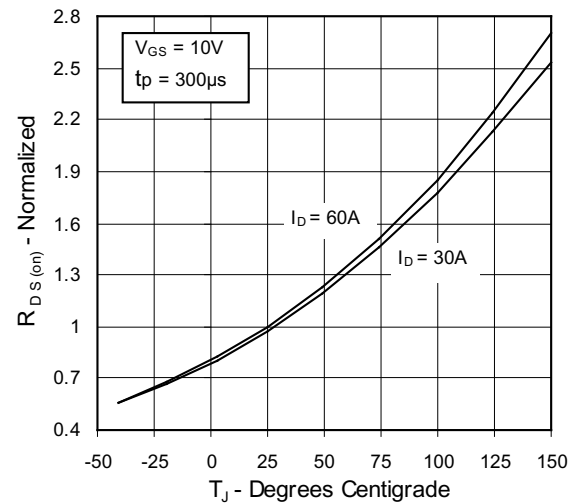


Fig. 4 Typical normalized $R_{DS(on)} = f(T_J)$

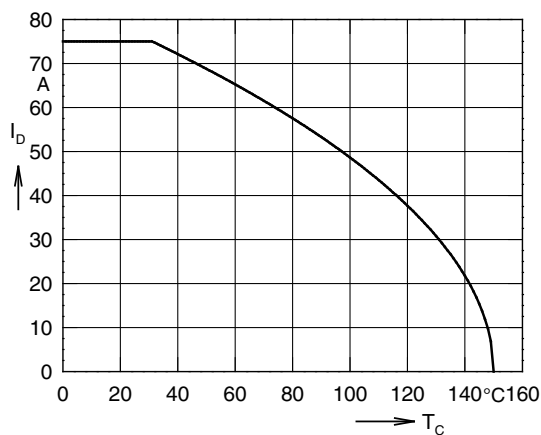


Fig. 5 Continuous drain current $I_D = f(T_C)$

Fig. 6 Typ. normalized $V_{DSS} = f(T_J), V_{GS(th)} = f(T_J)$

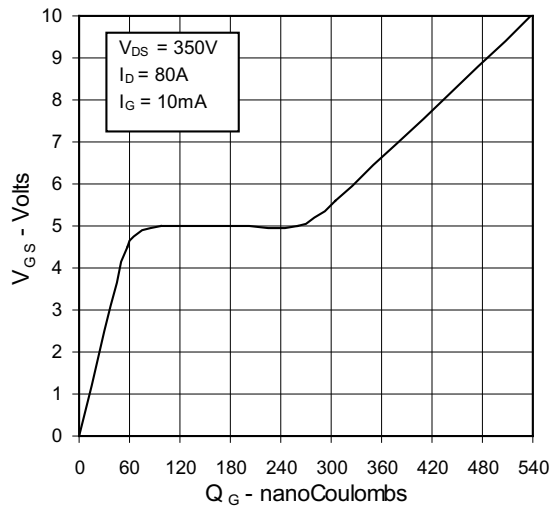


Fig. 7 Typ. turn-on gate charge characteristics

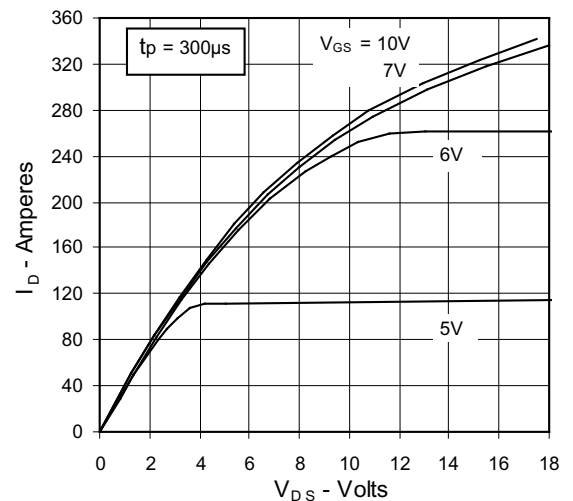


Fig. 8 Forward Safe Operating Area, $I_D = f(V_{DS})$

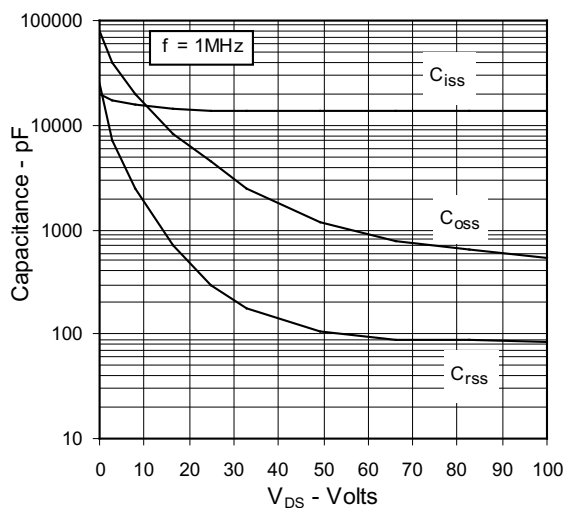


Fig. 9 Typ. capacitances $C = f(V_{DS})$, $f = 1 \text{ MHz}$

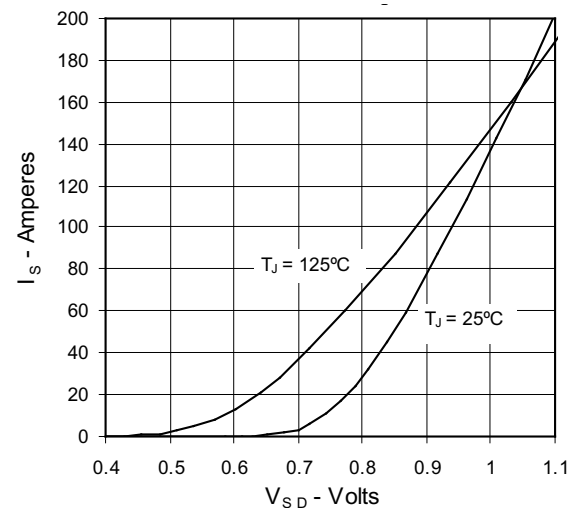


Fig. 10 Typ. forward characteristics of reverse diode, $I_S = f(V_{SD})$

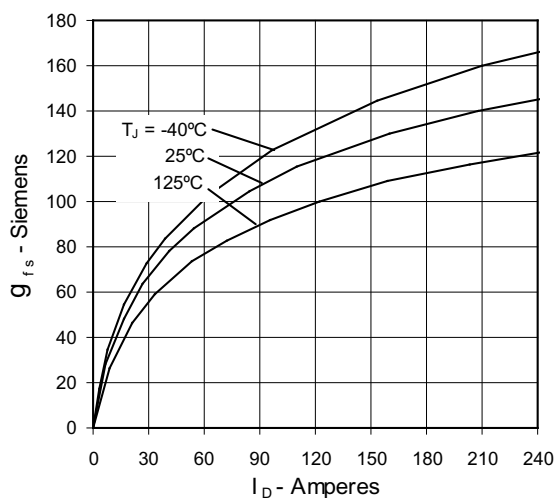


Fig. 11 Typical transconductance $g_{fs} = f(I_D)$

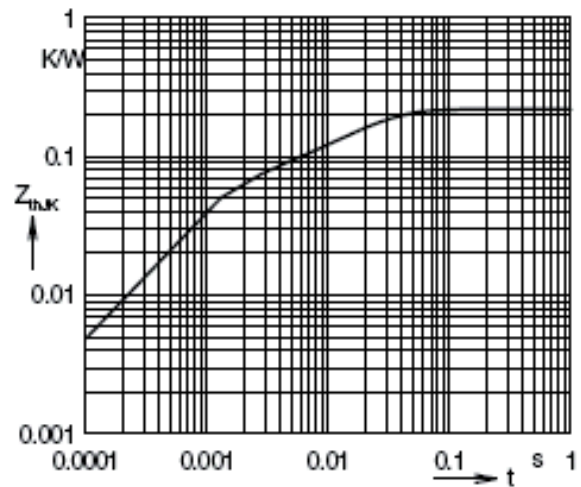


Fig. 12 Transient thermal resistance $Z_{thJK} = f(t_p)$



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