Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V_{DSS}	-30	V
Gate-Source Voltage			V_{GSS}	±20	V
Drain Current (Note 6)	Steady State	T_A = +25°C T_A = +70°C	I_D	-13 -9.75	A
Pulsed Drain Current (Note 7)			I_{DM}	-45	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 6)	P_D	2.5	W
Thermal Resistance, Junction to Ambient	$R_{\Theta JA}$	50	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes: 6. Device mounted on 2 oz. Copper pads on FR-4 PCB with $R_{\Theta JA}$ = +50°C/W.
7. Pulse width ≤10μS, Duty Cycle ≤1%.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)						
Drain-Source Breakdown Voltage	BV_{DSS}	-30	—	—	V	V_{GS} = 0V, I_D = -250μA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-1	μA	V_{DS} = -30V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	±100	nA	V_{GS} = ±20V, V_{DS} = 0V
ON CHARACTERISTICS (Note 8)						
Gate Threshold Voltage	$V_{GS(th)}$	-1	—	-2	V	V_{DS} = V_{GS}, I_D = -250μA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	— —	9 14	11 17	mΩ	V_{GS} = -10V, I_D = -13A V_{GS} = -4.5V, I_D = -10A
Forward Transconductance	g_{fs}	—	15	—	S	V_{DS} = -15V, I_D = -8A
Diode Forward Voltage (Note 8)	V_{SD}	-0.5	—	-1.1	V	V_{GS} = 0V, I_S = -2.1A
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C_{iss}	—	2,748	—	pF	V_{DS} = -20V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	357	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	356	—	pF	
Gate Resistance	R_G	—	2.0	—	Ω	V_{DS} = 0V, V_{GS} = 0V f = 1.0MHz
SWITCHING CHARACTERISTICS (Note 9)						
Total Gate Charge	Q_g	— —	30.0 60.4	— —	nC	V_{DS} = -10V, V_{GS} = -4.5V, I_D = -13A V_{DS} = -10V, V_{GS} = -10V, I_D = -13A
Gate-Source Charge	Q_{gs}	—	7.2	—		V_{DS} = -10V, V_{GS} = -10V, I_D = -13A
Gate-Drain Charge	Q_{gd}	—	16.4	—		V_{DS} = -10V, V_{GS} = -10V, I_D = -13A
Turn-On Delay Time	$t_{d(on)}$	—	11.2	—	nS	V_{DS} = -15V, V_{GS} = -10V, I_D = -1A, R_G = 6.0Ω
Rise Time	t_r	—	12.4	—		
Turn-Off Delay Time	$t_{d(off)}$	—	104.9	—		
Fall Time	t_f	—	61.7	—		

Notes: 8. Short duration pulse test used to minimize self-heating effect.
9. Guaranteed by design. Not subject to product testing.

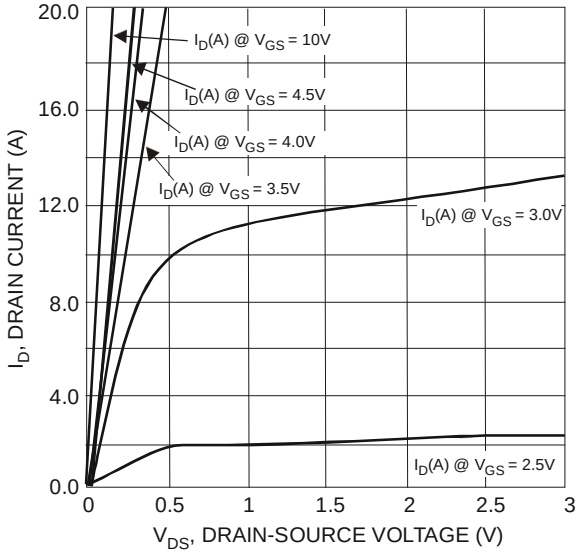


Fig.1 Typical Output Characteristics

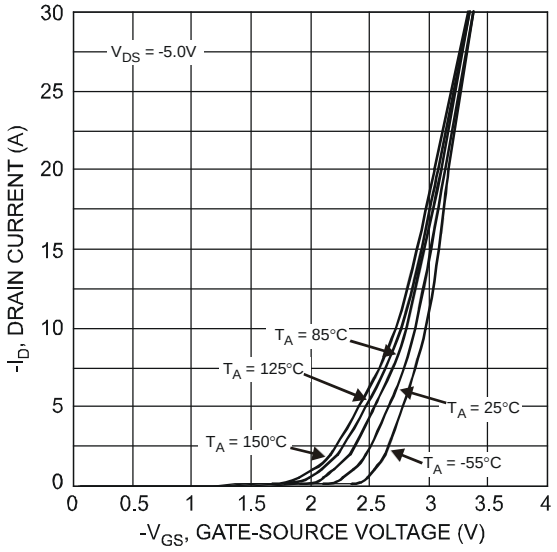


Fig. 2 Typical Transfer Characteristics

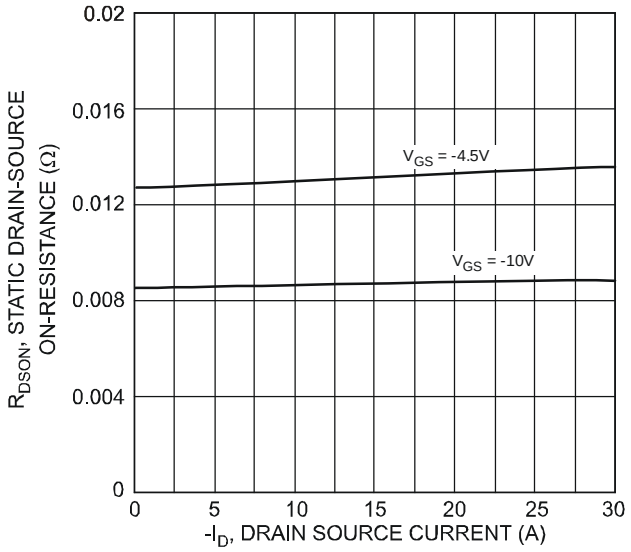


Fig. 3 On-Resistance vs. Drain Current & Gate Voltage

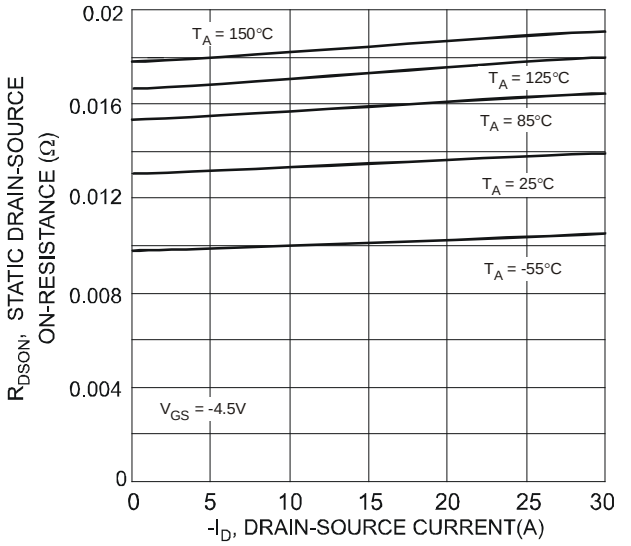


Fig. 4 On-Resistance vs.Drain Current & Gate Voltage

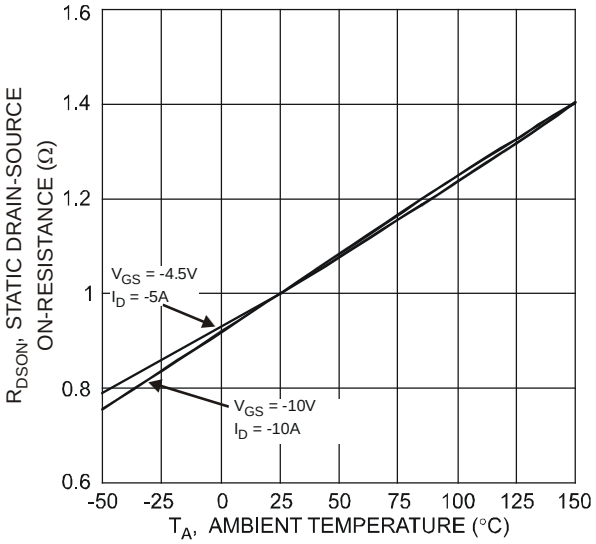


Fig. 5 Static Drain-Source On-Resistance vs. Ambient Temperature

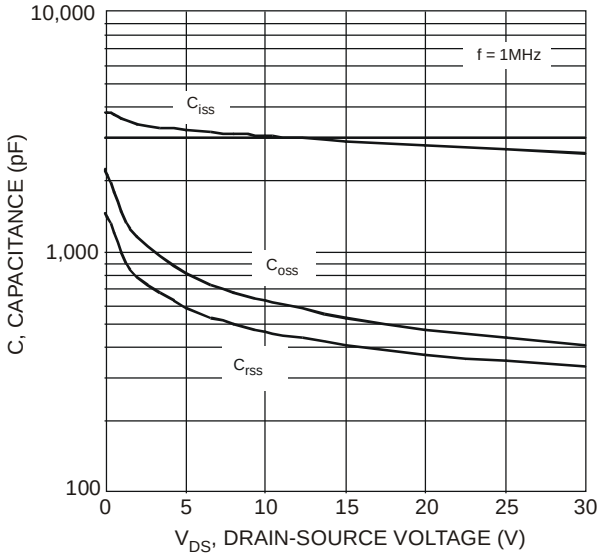


Fig. 6 Typical Total Capacitance

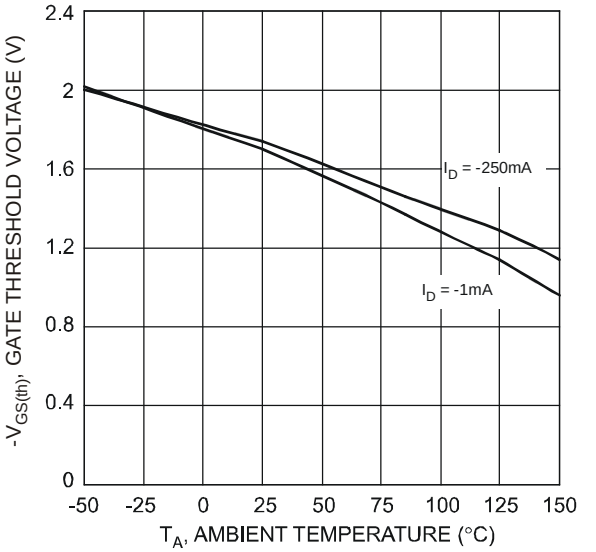


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

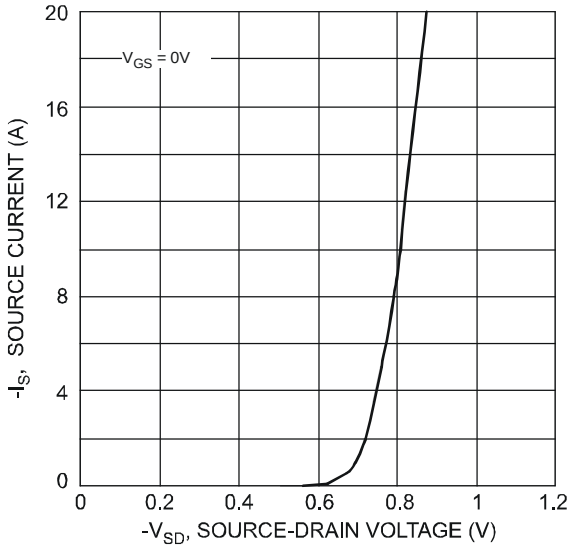


Fig. 8 Forward Drain Current vs. Source-Drain Voltage

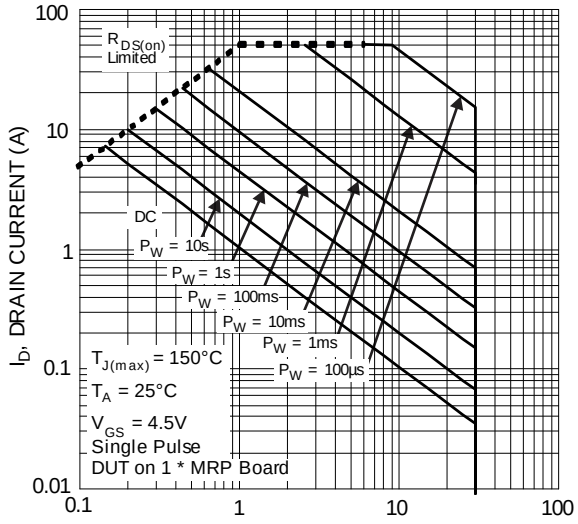


Figure 9 SOA, Safe Operation Area

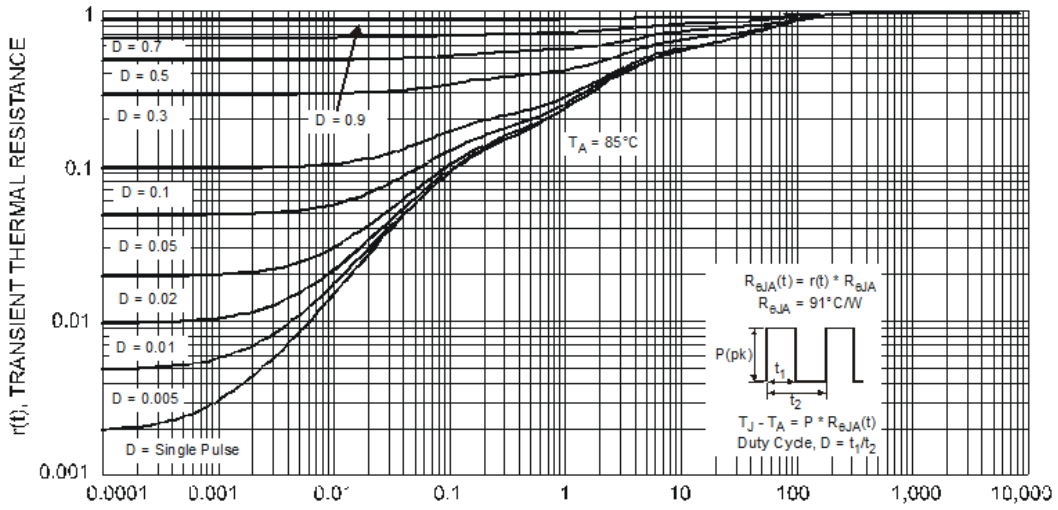
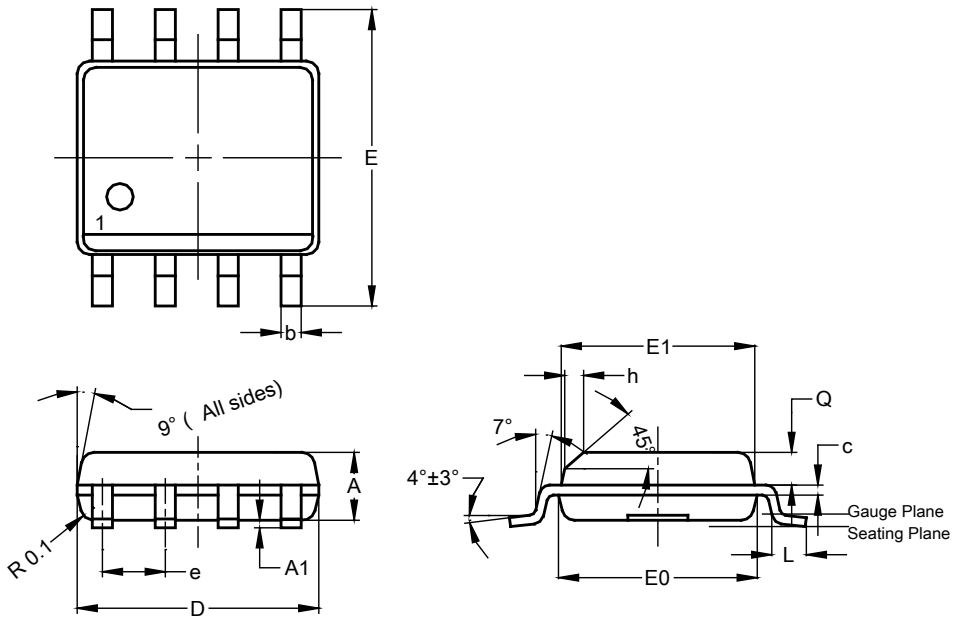


Fig. 10 Transient Thermal Resistance

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SO-8

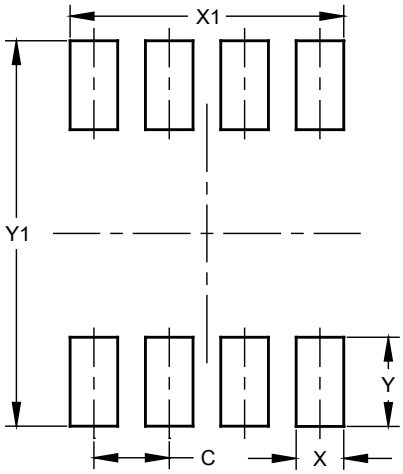


SO-8			
Dim	**Min**	**Max**	**Typ**
A	1.40	1.50	1.45
A1	0.10	0.20	0.15
b	0.30	0.50	0.40
c	0.15	0.25	0.20
D	4.85	4.95	4.90
E	5.90	6.10	6.00
E1	3.80	3.90	3.85
E0	3.85	3.95	3.90
e	—	—	1.27
h	—	—	0.35
L	0.62	0.82	0.72
Q	0.60	0.70	0.65
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SO-8



Dimensions	Value (in mm)
C	1.27
X	0.802
X1	4.612
Y	1.505
Y1	6.50

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