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

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V_{DSS}	-30	V
Gate-Source Voltage			V_{GSS}	±25	V
Drain Current (Note 5) (V_{GS} = -20V)	Steady State	T_A = +25°C T_A = +70°C	I_D	-10 -8	A
Pulsed Drain Current (Note 6)			I_{DM}	-80	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_D	2.0	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	60	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 7)						
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 ±800	nA	V_{GS} = ±20V, V_{DS} = 0V V_{GS} = ±25V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	-1	—	-2	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	— — —	11 15 27	14 18 36	mΩ	V_{GS} = -20V, I_D = -11A V_{GS} = -10V, I_D = -8A V_{GS} = -4.5V, I_D = -5A
Forward Transconductance	G_{fs}	—	12	—	S	V_{DS} = -10V, I_D = -12A
Diode Forward Voltage (Note 7)	V_{SD}	-0.5	—	-1.1	V	V_{GS} = 0V, I_S = -2A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	1,655	—	pF	V_{DS} = -20V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	286	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	240	—	pF	
Gate Resistance	R_G	—	2.3	—	Ω	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q_g	—	15.3 30.7	—	nC	V_{DS} = -15V, V_{GS} = -4.5V, I_D = -8A V_{DS} = -15V, V_{GS} = -10V, I_D = -8A
Gate-Source Charge	Q_{gs}	—	3.5	—		V_{DS} = -15V, V_{GS} = -10V, I_D = -8A
Gate-Drain Charge	Q_{gd}	—	7.9	—		V_{DS} = -15V, V_{GS} = -10V, I_D = -8A
Turn-On Delay Time	$t_{D(ON)}$	—	5.1	—	ns	V_{GS} = -10V, V_{DS} = -15V, R_D = 15Ω, R_G = 6Ω
Rise Time	t_R	—	8	—		
Turn-Off Delay Time	$t_{D(OFF)}$	—	46	—		
Fall Time	t_F	—	30	—		

Notes: 5. Device mounted on 1 inch^2 FR-4 board with 2 oz. copper, in a still-air environment with T_A = +25°C.
6. Repetitive rating, pulse width limited by junction temperature.
7. Short duration pulse test used to minimize self-heating effect.

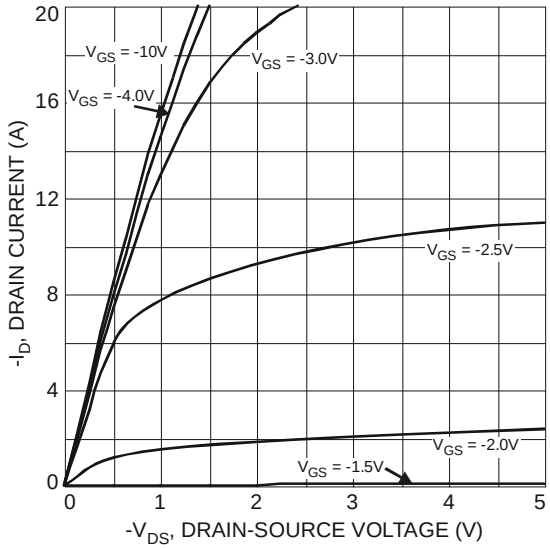


Fig. 1 Typical Output Characteristic

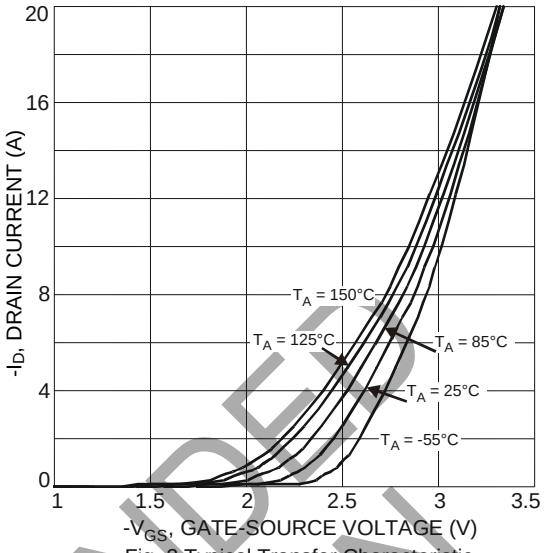


Fig. 2 Typical Transfer Characteristic

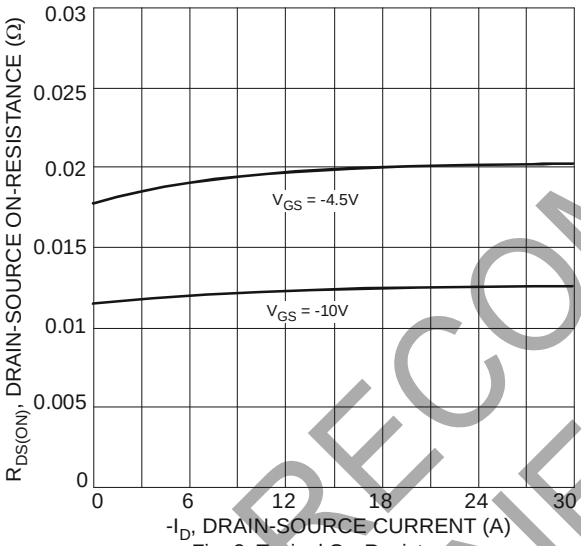


Fig. 3 Typical On-Resistance
vs. Drain Current and Gate Voltage

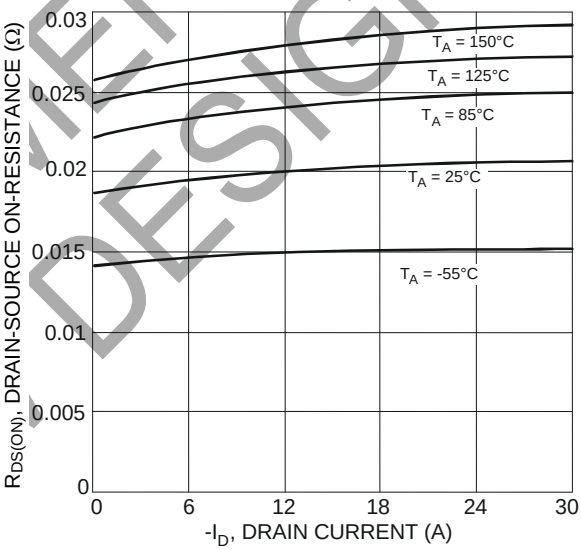


Fig. 4 Typical On-Resistance
vs. Drain Current and Temperature

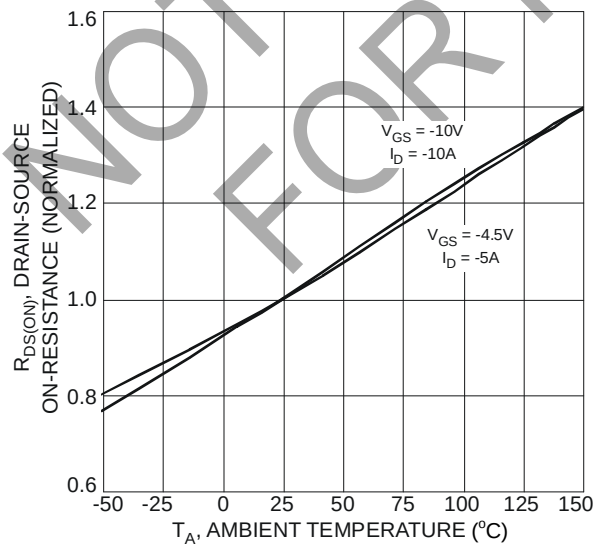


Fig. 5 Normalized On-Resistance vs. Ambient Temperature

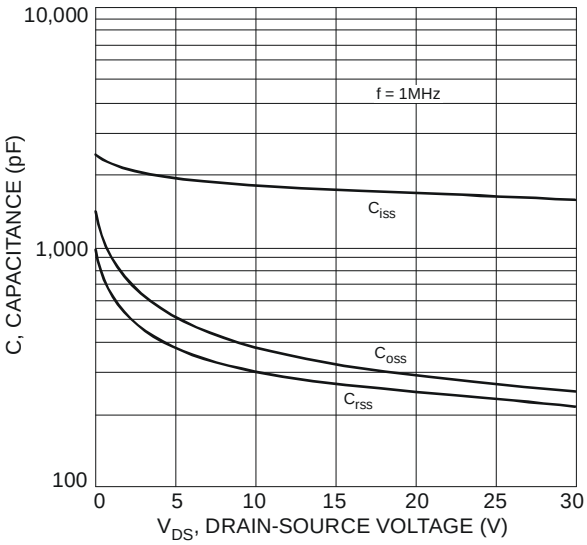


Fig. 6 Typical Total Capacitance

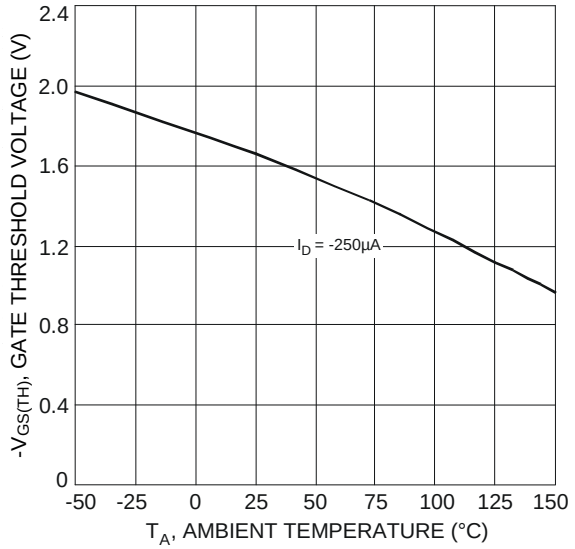


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

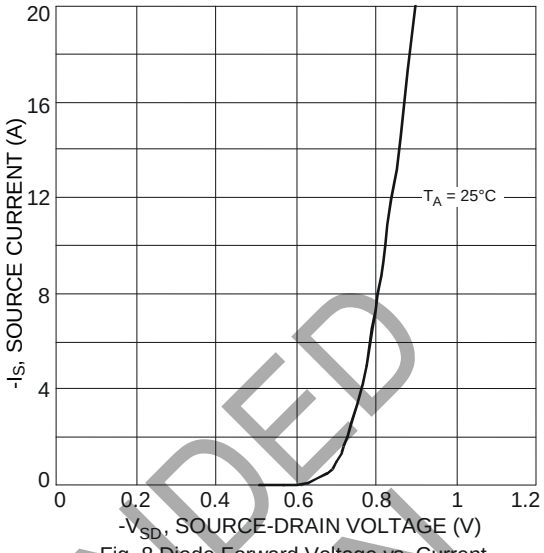


Fig. 8 Diode Forward Voltage vs. Current

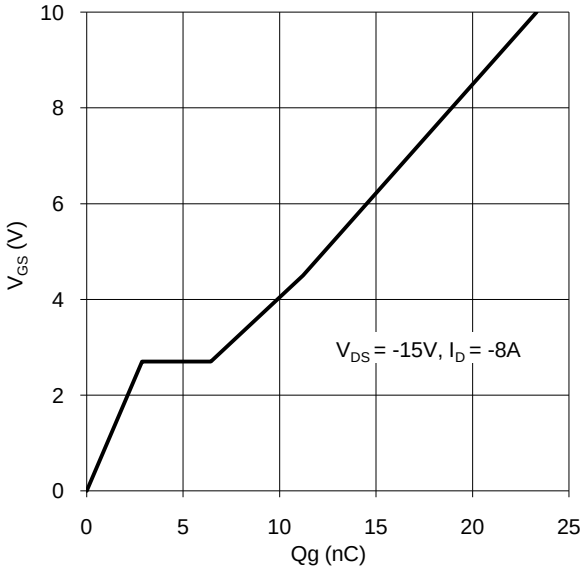


Fig. 9 Gate Charge

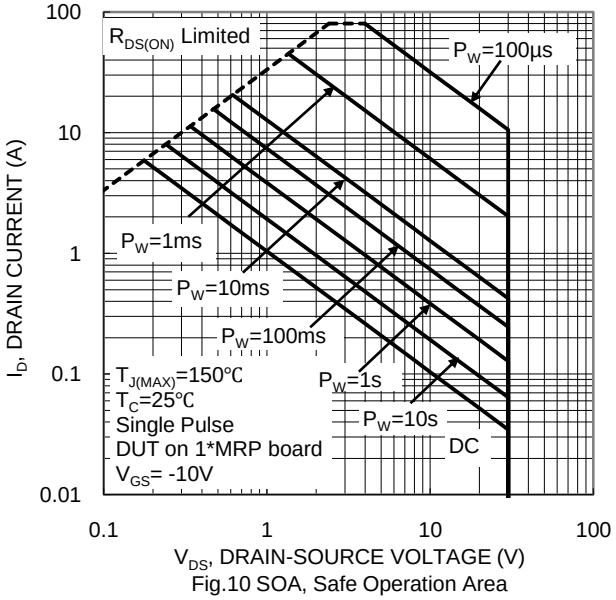


Fig.10 SOA, Safe Operation Area

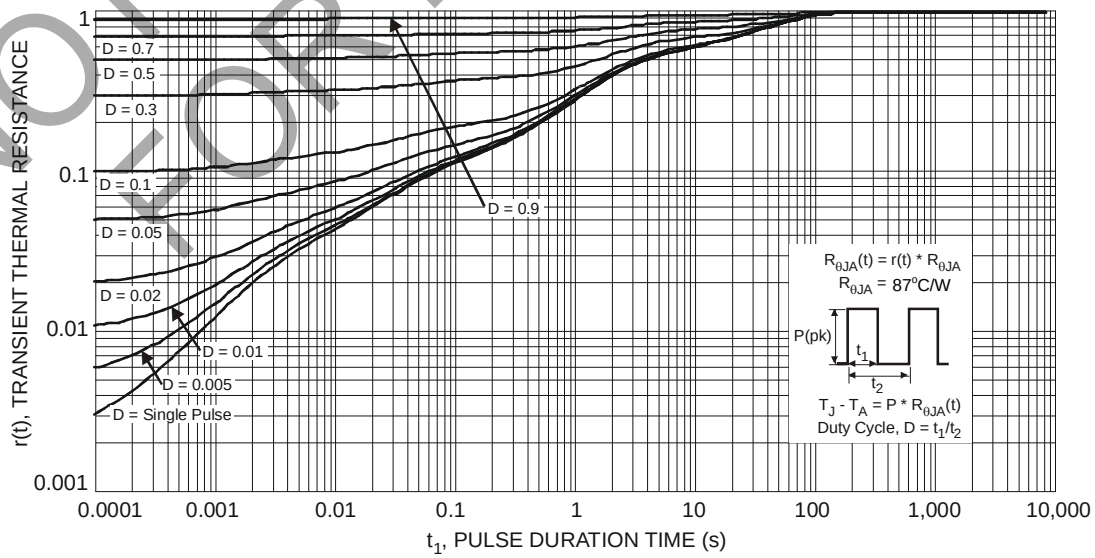
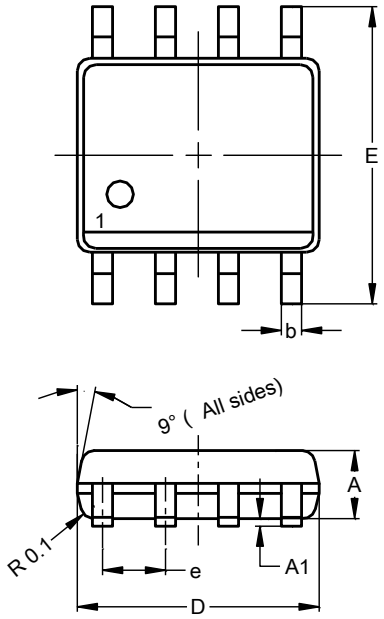


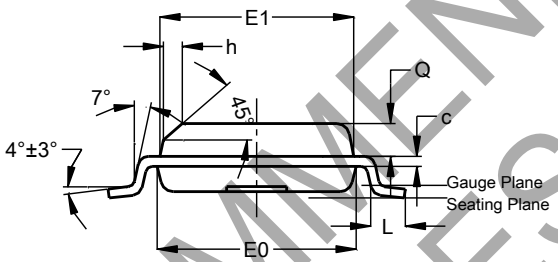
Fig. 11 Transient Thermal Response

Package Outline Dimensions

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

SO-8



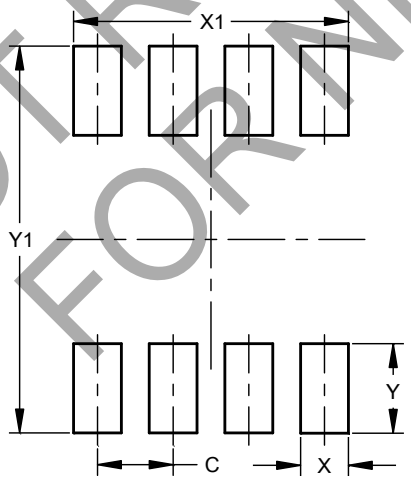


SO-8			
Dim	**Min**	**Max**	**Typ**
A	1.40	1.50	1.45
A1	0.10	0.20	0.15
b	0.30	0.50	0.40
c	0.15	0.25	0.20
D	4.85	4.95	4.90
E	5.90	6.10	6.00
E1	3.80	3.90	3.85
E0	3.85	3.95	3.90
e	--	--	1.27
h	-	--	0.35
L	0.62	0.82	0.72
Q	0.60	0.70	0.65
All Dimensions in mm			

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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