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}	±20	V
Continuous Drain Current (Note 6) V_{GS} = -10V	Steady State	T_A = +25°C T_A = +70°C	I_D	-3.9 -3.1	A
	t<10s	T_A = +25°C T_A = +70°C	I_D	-4.9 -3.9	A
Maximum Continuous Body Diode Forward Current (Note 6)			I_S	-2.5	A
Pulsed Drain Current (10µs Pulse, Duty Cycle = 1%)			I_{DM}	-20	A

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Total Power Dissipation (Note 5)	T_A = +25°C	P_D	1.1	W
	T_A = +70°C		0.7	
Thermal Resistance, Junction to Ambient (Note 5)	Steady State	$R_{\theta JA}$	107	°C/W
	t<10s		70	
Total Power Dissipation (Note 6)	T_A = +25°C	P_D	1.7	W
	T_A = +70°C		1.1	
Thermal Resistance, Junction to Ambient (Note 6)	Steady State	$R_{\theta JA}$	75	°C/W
	t<10s		50	
Thermal Resistance, Junction to Case		$R_{\theta JC}$	14.5	
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	nA	V_{GS} = ±20V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	-1	—	-3	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	50	70	mΩ	V_{GS} = -10V, I_D = -5.3A
		—	75	95		V_{GS} = -4.5V, I_D = -4.2A
Forward Transfer Admittance	$\|Y_{fs}\|$	—	5.8	—	S	V_{DS} = -5V, I_D = -5.3A
Diode Forward Voltage	V_{SD}	—	-0.7	-1.2	V	V_{GS} = 0V, I_S = -1A
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	563	—	pF	V_{DS} = -25V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	—	48	—		
Reverse Transfer Capacitance	C_{rss}	—	41	—		
Gate Resistance	R_G	—	10.3	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge (V_{GS} = -4.5V)	Q_g	—	5.2	—	nC	V_{DS} = -15V, I_D = -3.8A
Total Gate Charge (V_{GS} = -10V)	Q_g	—	11	—		
Gate-Source Charge	Q_{gs}	—	1.7	—		
Gate-Drain Charge	Q_{gd}	—	1.9	—		
Turn-On Delay Time	$t_{D(ON)}$	—	4.8	—	ns	V_{DS} = -15V, V_{GS} = -10V, I_D = -1A, R_G = 6.0Ω
Turn-On Rise Time	t_R	—	5	—		
Turn-Off Delay Time	$t_{D(OFF)}$	—	31	—		
Turn-Off Fall Time	t_F	—	14.6	—		

Notes:
5. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
6. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.
7. Short duration pulse test used to minimize self-heating effect.
8. Guaranteed by design. Not subject to product testing.

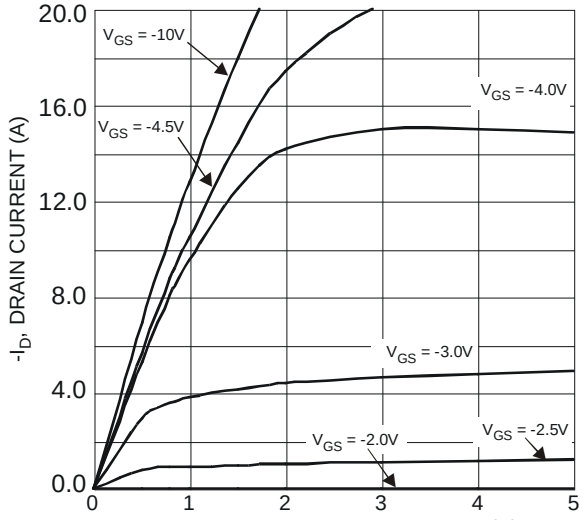


Figure 1 Typical Output Characteristics

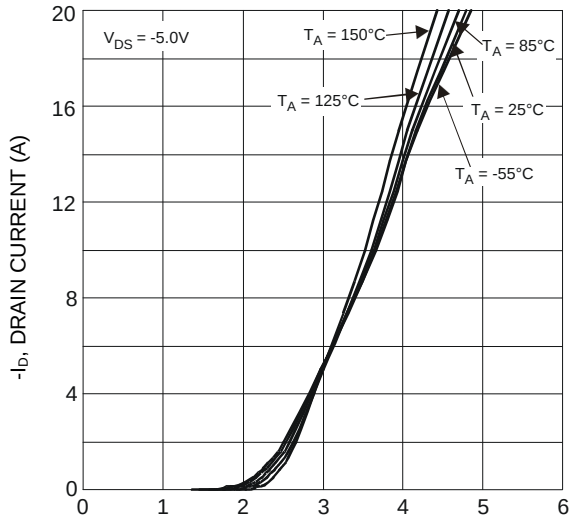


Figure 2 Typical Transfer Characteristics

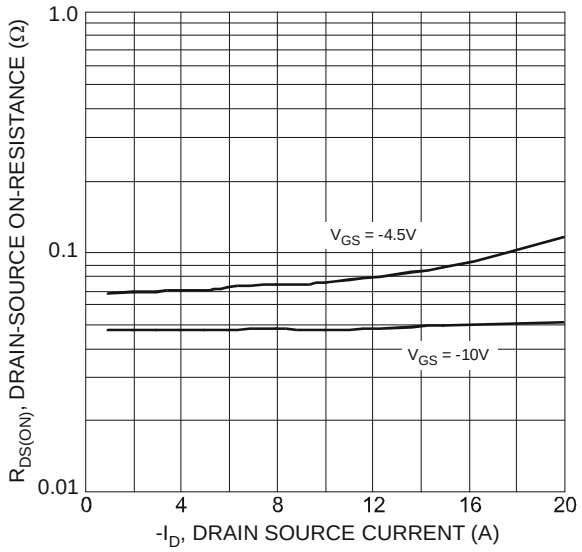


Figure 3 Typical On-Resistance vs. Drain Current and Gate Voltage

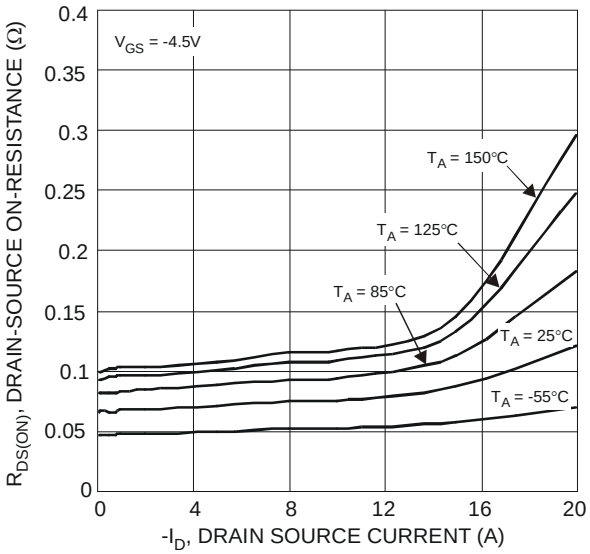


Figure 4 Typical On-Resistance vs. Drain Current and Temperature

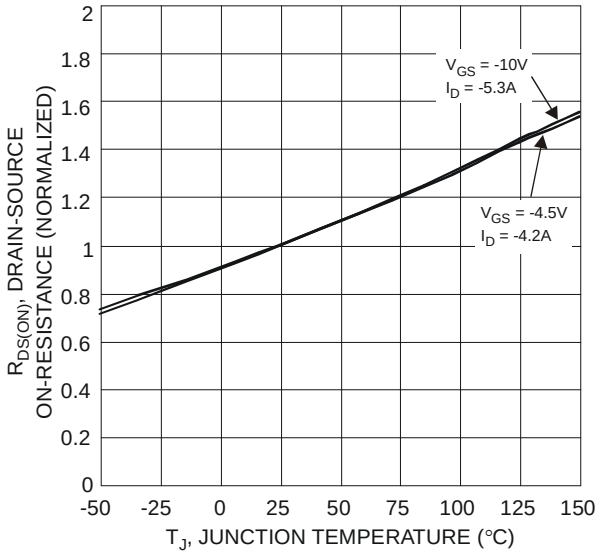


Figure 5 On-Resistance Variation with Temperature

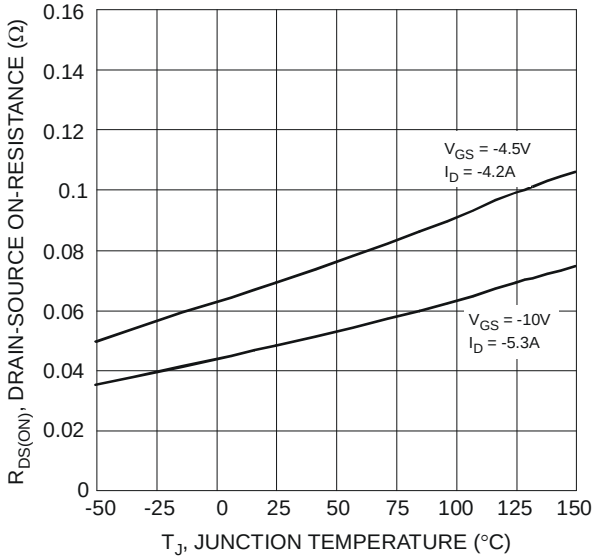


Figure 6 On-Resistance Variation with Temperature

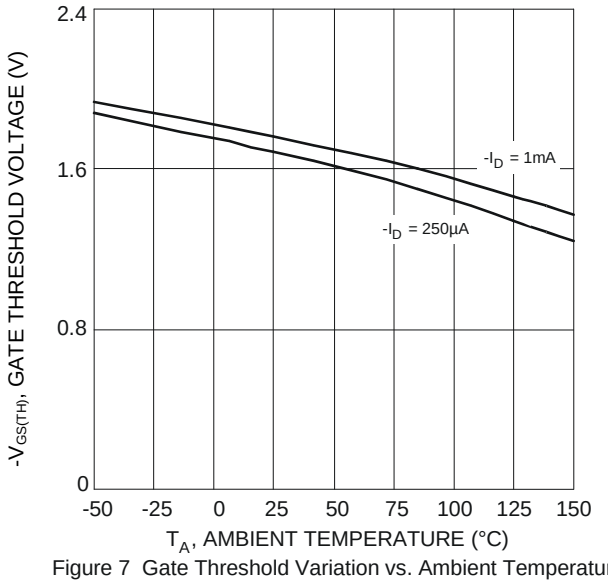


Figure 7 Gate Threshold Variation vs. Ambient Temperature

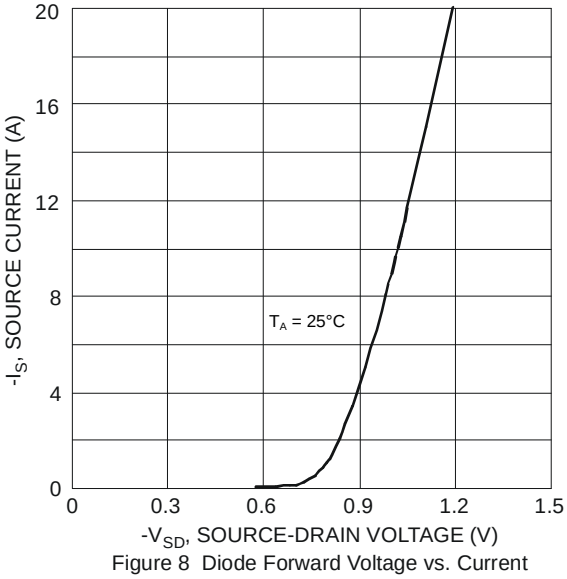


Figure 8 Diode Forward Voltage vs. Current

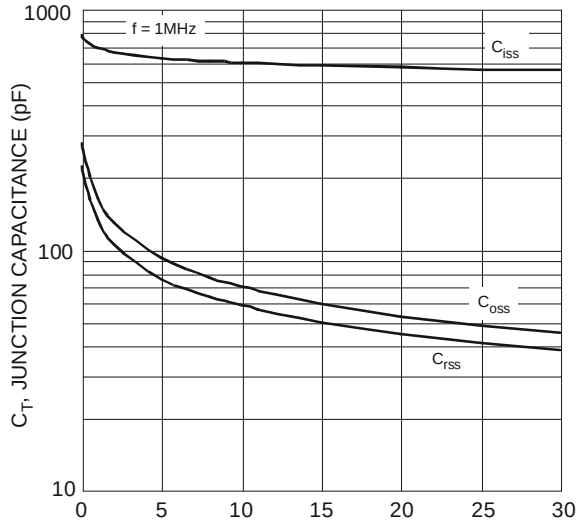


Figure 9 Typical Junction Capacitance

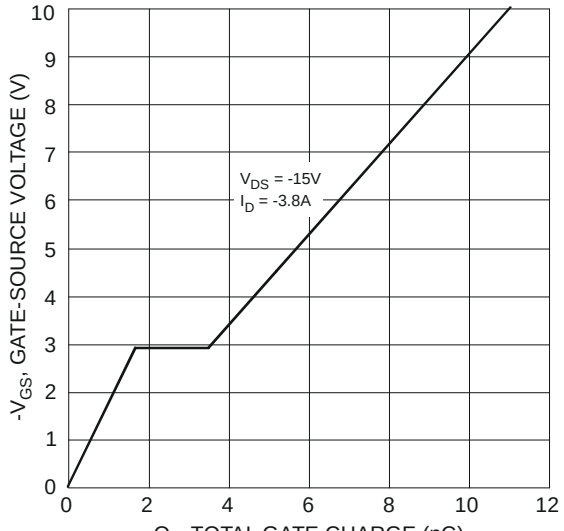


Figure 10 Gate-Charge Characteristics

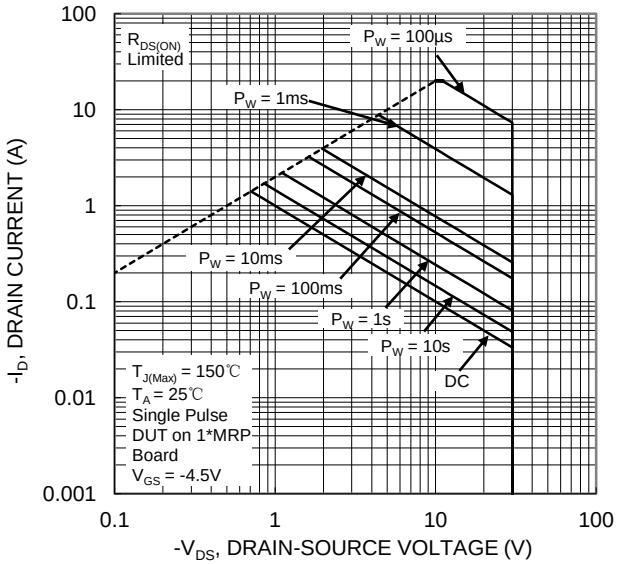


Figure 11 SOA, Safe Operation Area

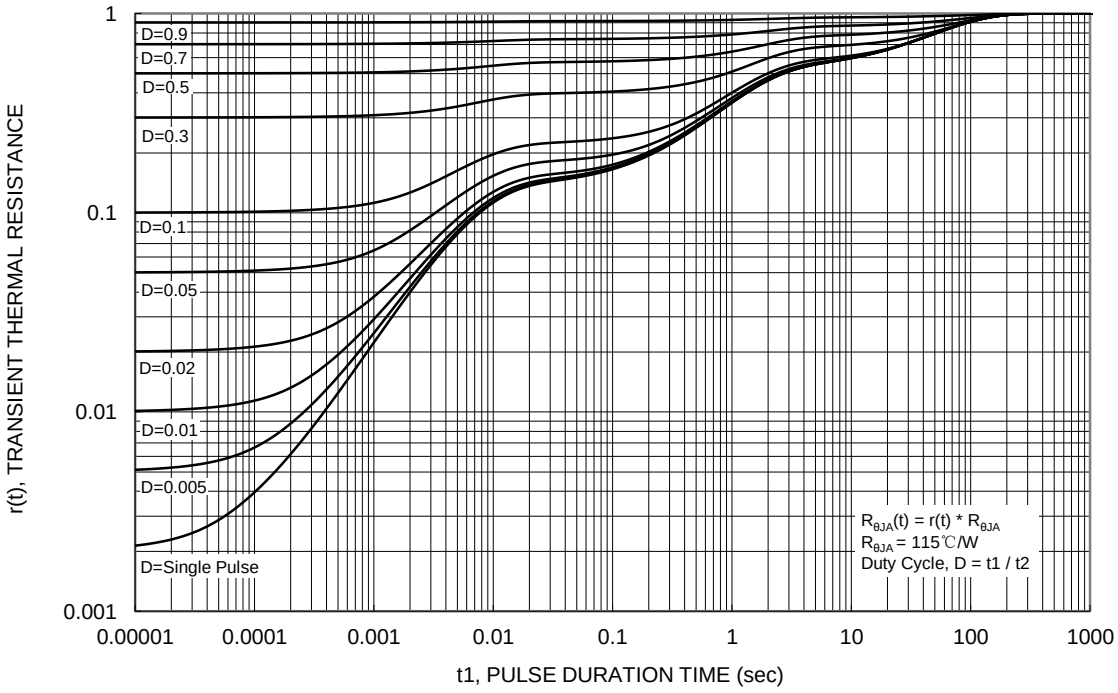
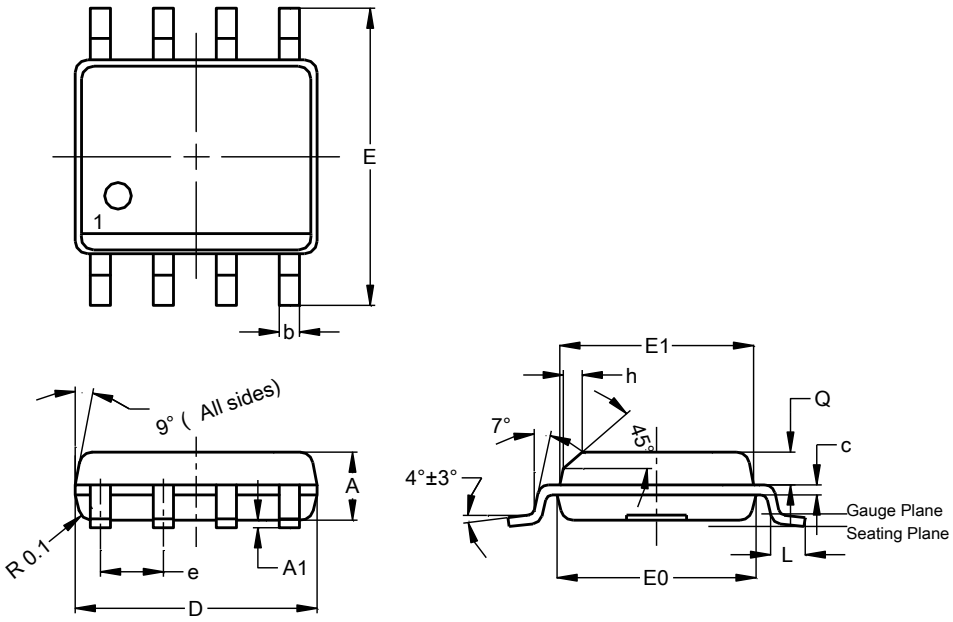


Figure 12 Transient Thermal Resistance

Package Outline Dimensions

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

SO-8

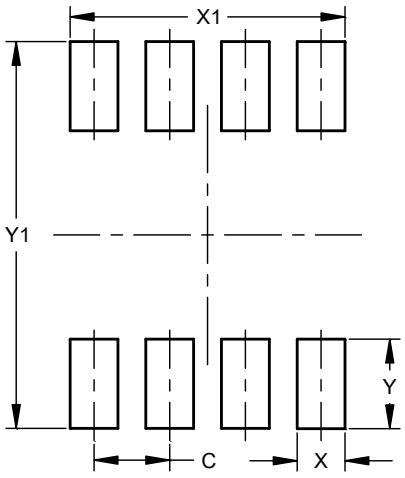


SO-8			
Dim	**Min**	**Max**	**Typ**
A	1.40	1.50	1.45
A1	0.10	0.20	0.15
b	0.30	0.50	0.40
c	0.15	0.25	0.20
D	4.85	4.95	4.90
E	5.90	6.10	6.00
E1	3.80	3.90	3.85
E0	3.85	3.95	3.90
e	--	--	1.27
h	--	--	0.35
L	0.62	0.82	0.72
Q	0.60	0.70	0.65
All Dimensions in mm			

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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