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 5)	Steady State	T_A = +25°C T_A = +70°C	I_D	-6.9 -5.8	A
Pulsed Drain Current (Note 6)			I_{DM}	-24	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_D	2.5	W
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	50	°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	-1.7	-2.1	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	— —	— —	45 65	mΩ	V_{GS} = -10V, I_D = -6.0A V_{GS} = -4.5V, I_D = -5.0A
Forward Transconductance	g_{fs}	—	8	—	S	V_{DS} = -10V, I_D = -5.3A
Diode Forward Voltage (Note 7)	V_{SD}	-0.5	—	-1.2	V	V_{GS} = 0V, I_S = -1.7A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	722	—	pF	V_{DS} = -25V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	114	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	92	—	pF	
Gate Resistance	R_G	—	3.3	—	Ω	V_{DS} = 0V, V_{GS} = 0V f = 1.0MHz
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q_G	—	6.8	—	nC	V_{DS} = -15V, V_{GS} = -4.5V, I_D = -6A
	Q_G	—	13.7	—	nC	V_{DS} = -15V, V_{GS} = -10V, I_D = -6A
Gate-Source Charge	Q_{GS}	—	1.6	—		
Gate-Drain Charge	Q_{GD}	—	4.2	—		
Turn-On Delay Time	$t_{d(on)}$	—	6.4	—	ns	V_{DS} = -15V, V_{GS} = -10V, I_D = -1A, R_G = 6.0Ω
Rise Time	t_r	—	5.3	—		
Turn-Off Delay Time	$t_{d(off)}$	—	26.5	—		
Fall Time	t_f	—	14.7	—		

Notes: 5. Device mounted on 2 oz. 1" x 1" Copper pads on 2" x 2" FR-4 PCB.
6. Pulse width ≤10µS, Duty Cycle ≤1%.
7. Short duration pulse test used to minimize self-heating effect.

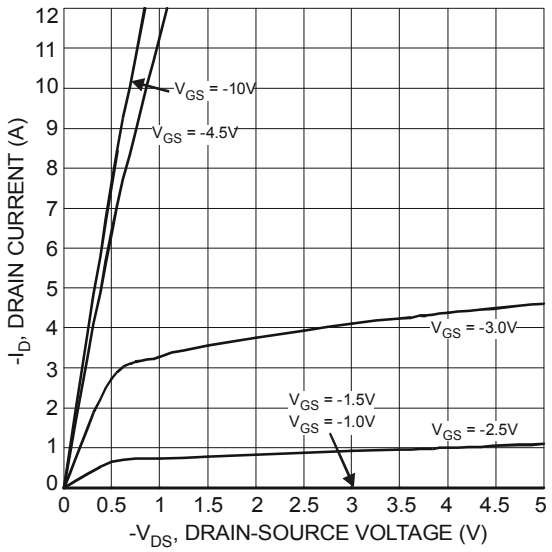


Fig. 1 Typical Output Characteristics

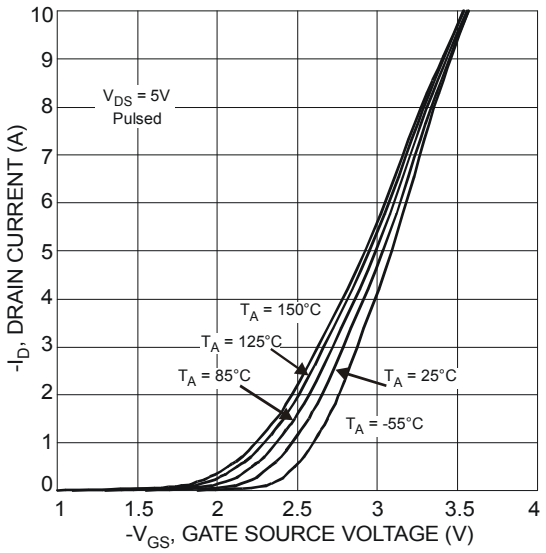


Fig. 2 Typical Transfer Characteristics

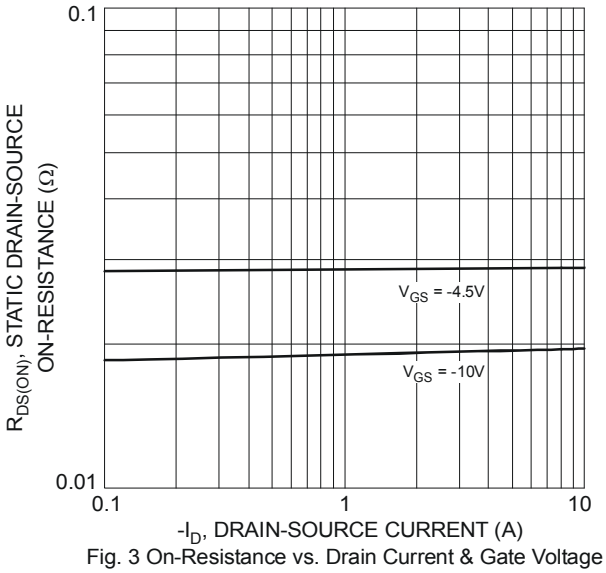


Fig. 3 On-Resistance vs. Drain Current & Gate Voltage

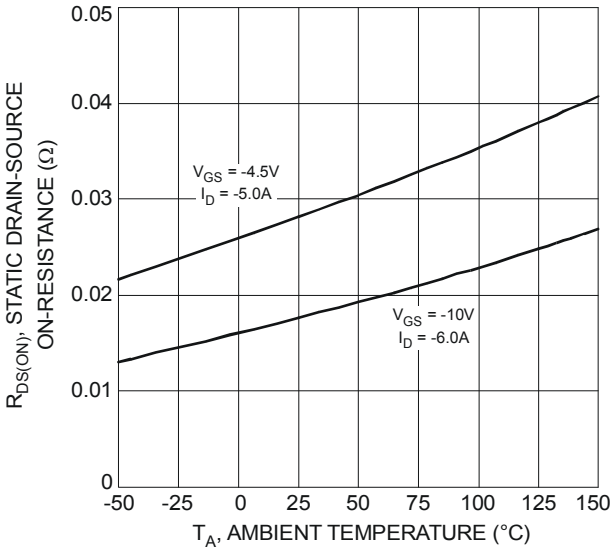


Fig. 4 Static Drain-Source On-Resistance vs. Ambient Temperature

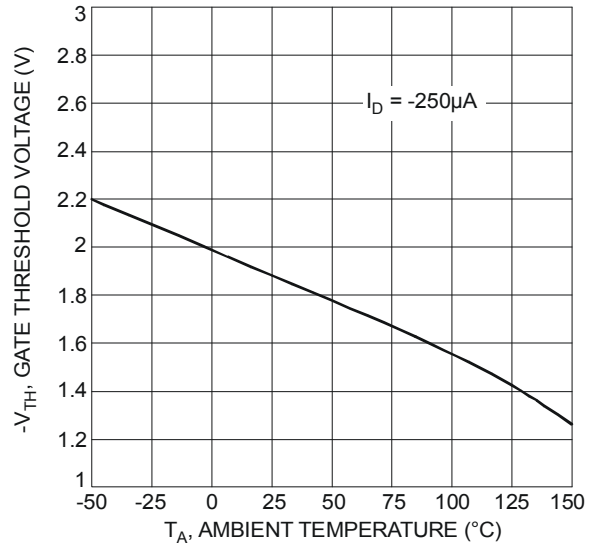


Fig. 5 Gate Threshold Variation vs. Ambient Temperature

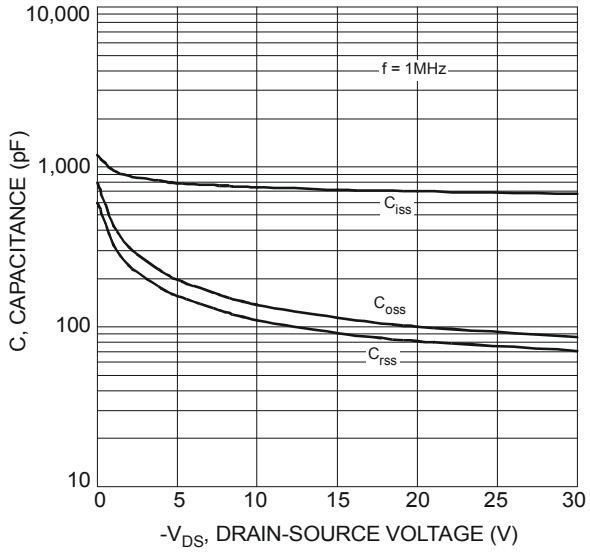


Fig. 6 Typical Total Capacitance

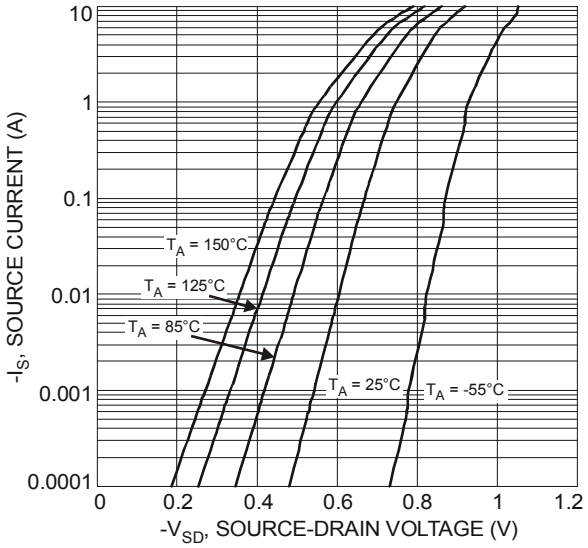
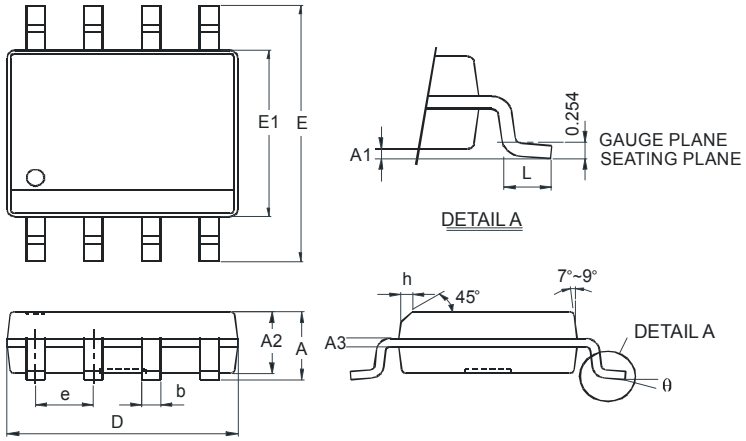


Fig. 7 Reverse Drain Current vs. Source-Drain Voltage

Package Outline Dimensions

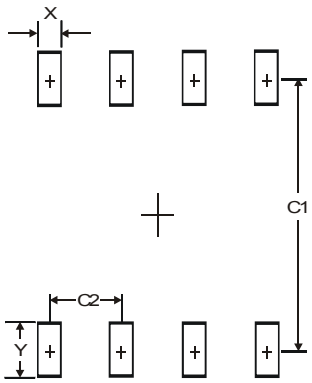
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SO-8		
Dim	**Min**	**Max**
A	-	1.75
A1	0.10	0.20
A2	1.30	1.50
A3	0.15	0.25
b	0.3	0.5
D	4.85	4.95
E	5.90	6.10
E1	3.85	3.95
e	1.27 Typ	
h	-	0.35
L	0.62	0.82
θ	0°	8°
All Dimensions in mm		

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
X	0.60
Y	1.55
C1	5.4
C2	1.27

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