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

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V_{DSS}	-30	V
Gate-Source Voltage (Note 4)			V_{GSS}	±25	V
Continuous Drain Current (Note 5) V_{GS} = -10V	Steady State	T_A = 25°C T_A = 70°C	I_D	-4.8 -3.8	A
	t<10s	T_A = 25°C T_A = 70°C	I_D	-6.3 -4.9	A
Maximum Continuous Body Diode Forward Current (Note 6)			I_S	-3.0	A
Pulsed Drain Current (10µs pulse, duty cycle = 1%)			I_{DM}	-30	A

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

Characteristic		Symbol	Value	Units
Total Power Dissipation (Note 5)	T_A = 25°C	P_D	1.7	W
	T_A = 70°C		1.1	
Thermal Resistance, Junction to Ambient (Note 5)	Steady State	$R_{\theta JA}$	73	°C/W
	t<10s		37	
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 6)						
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} = ±25V, V_{DS} = 0V
ON CHARACTERISTICS (Note 6)						
Gate Threshold Voltage	$V_{GS(th)}$	-1.0	-	-2.0	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	-	36	45	mΩ	V_{GS} = -10V, I_D = -6A
		-	61	80		V_{GS} = -4.5V, I_D = -5A
Forward Transfer Admittance	$\|Y_{fs}\|$	-	4.8	-	S	V_{DS} = -10V, I_D = -5.3A
Diode Forward Voltage	V_{SD}	-	-0.7	-1.0	V	V_{GS} = 0V, I_S = -1.7A
DYNAMIC CHARACTERISTICS (Note 7)						
Input Capacitance	C_{iss}	-	620	-	pF	V_{DS} = -15V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	-	83	-	pF	
Reverse Transfer Capacitance	C_{rss}	-	62	-	pF	
Gate resistance	R_g	-	10.8	-	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge (V_{GS} = -4.5V)	Q_g	-	5.1	-	nC	V_{DS} = -15V, I_D = -6A
Total Gate Charge (V_{GS} = -10V)	Q_g	-	10.5	-	nC	
Gate-Source Charge	Q_{gs}	-	1.8	-	nC	
Gate-Drain Charge	Q_{gd}	-	1.9	-	nC	
Turn-On Delay Time	$t_{D(on)}$	-	6.8	-	ns	V_{DD} = -15V, V_{GS} = -10V, R_G = 6Ω, I_D = -1A
Turn-On Rise Time	t_r	-	4.9	-	ns	
Turn-Off Delay Time	$t_{D(off)}$	-	28.4	-	ns	
Turn-Off Fall Time	t_f	-	12.4	-	ns	
Reverse Recovery Time	t_{rr}	-	14	-	ns	I_F = 12A, di/dt = 500A/µs
Reverse Recovery Charge	Q_{rr}	-	11	-	nC	

Notes: 4. AEC-Q101 V_{GS} maximum is ±20V
5. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.
6. Short duration pulse test used to minimize self-heating effect.
7. Guaranteed by design. Not subject to product testing.

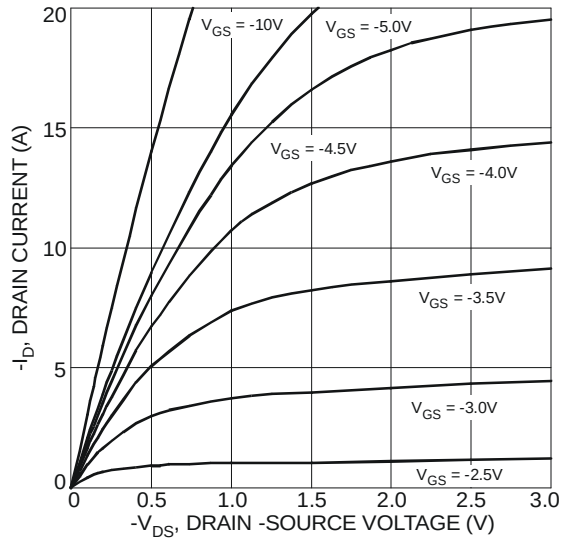


Fig. 1 Typical Output Characteristics

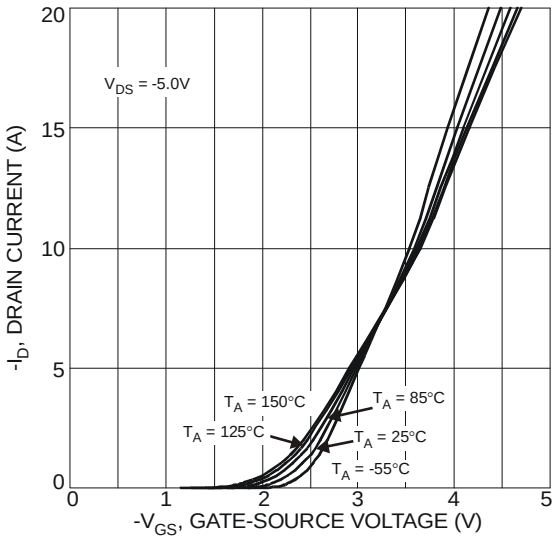


Fig. 2 Typical Transfer Characteristics

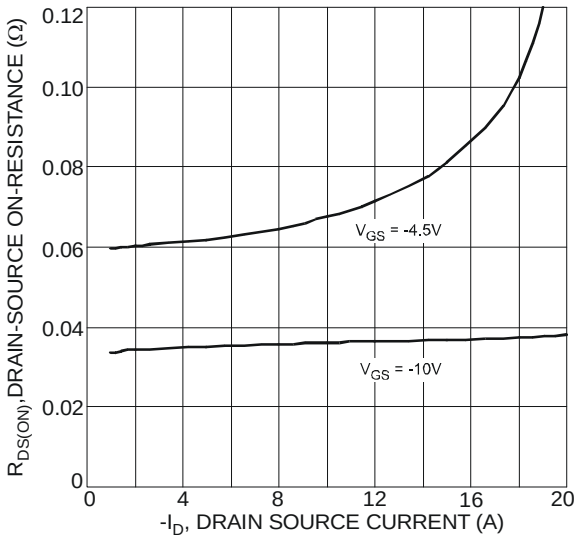


Fig. 3 Typical On-Resistance vs. Drain Current and Gate Voltage

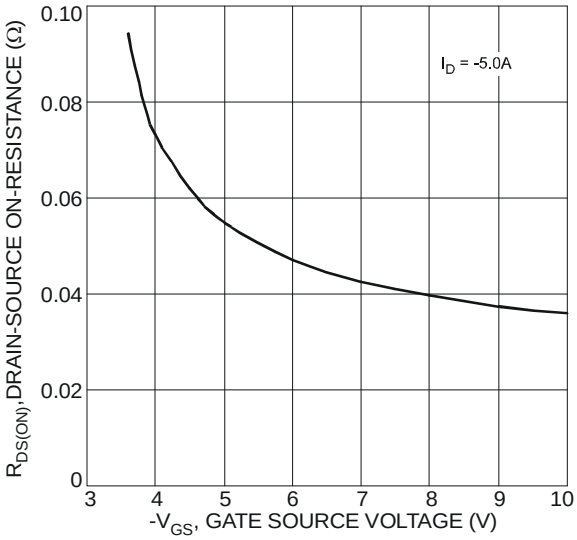


Fig. 4 Typical On-Resistance vs. Drain Current and Gate Voltage

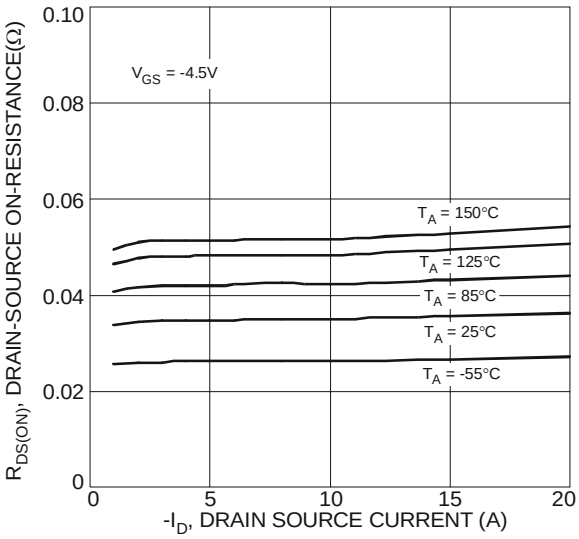


Fig. 5 Typical On-Resistance vs. Drain Current and Temperature

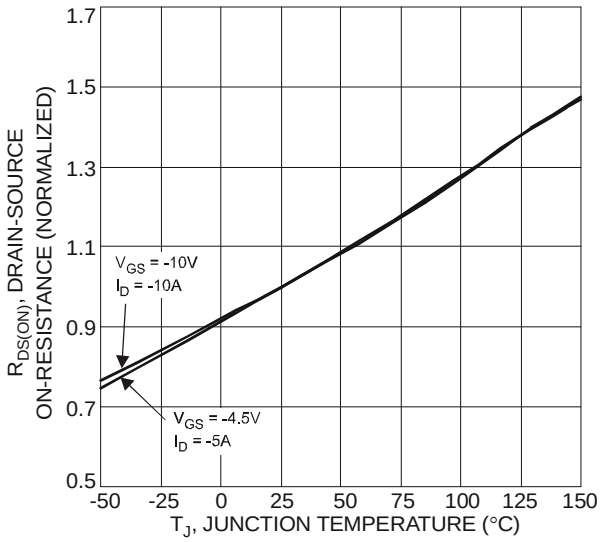


Fig. 6 On-Resistance Variation with Temperature

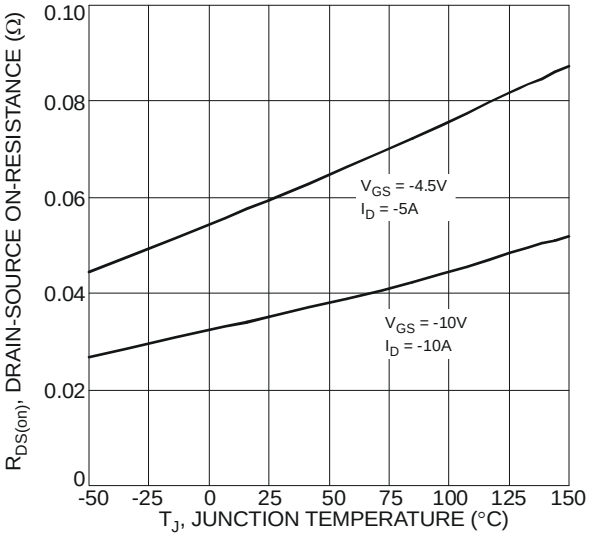


Fig. 7 On-Resistance Variation with Temperature

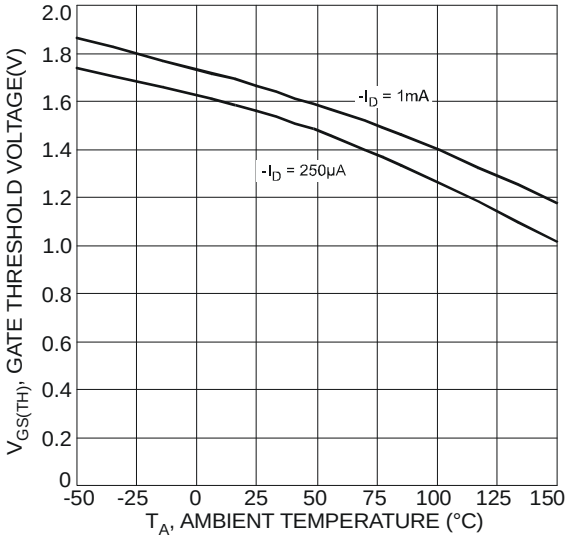


Fig. 8 Gate Threshold Variation vs. Ambient Temperature

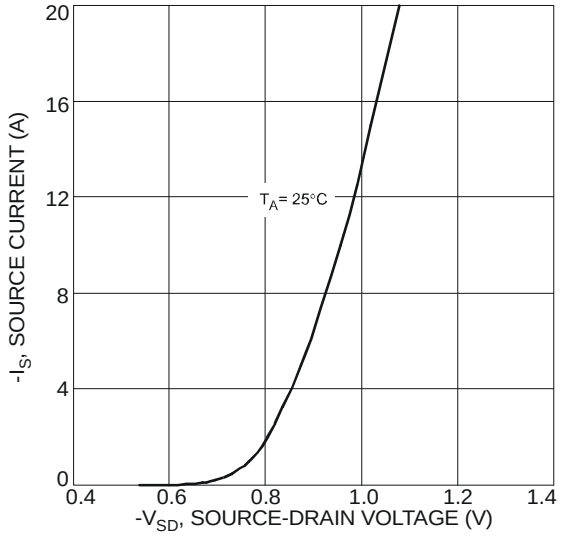


Fig. 9 Diode Forward Voltage vs. Current

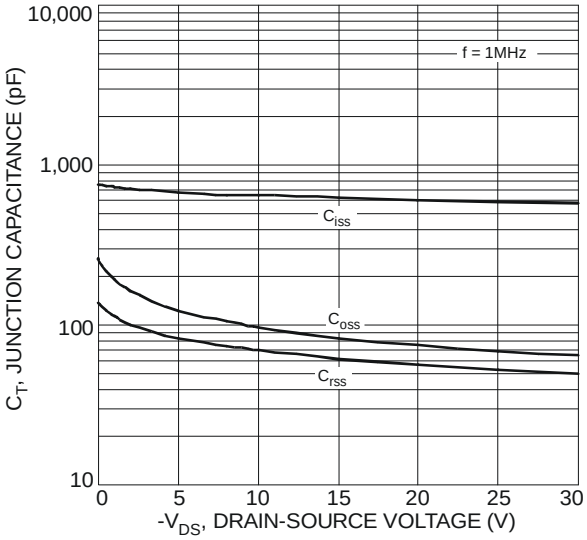


Fig. 10 Typical Junction Capacitance

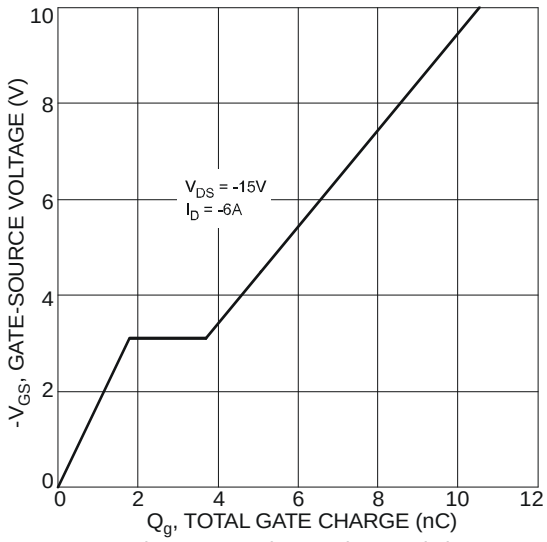


Fig. 11 Gate-Charge Characteristics

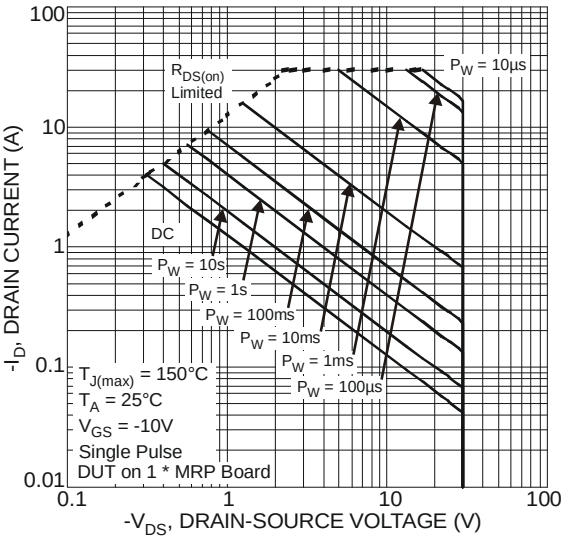


Fig. 12 SOA, Safe Operation Area

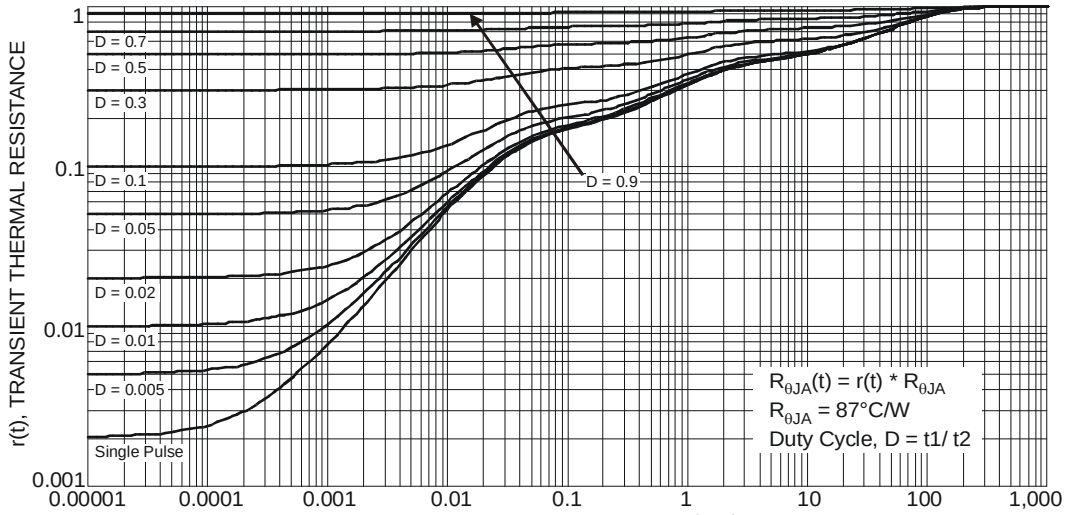
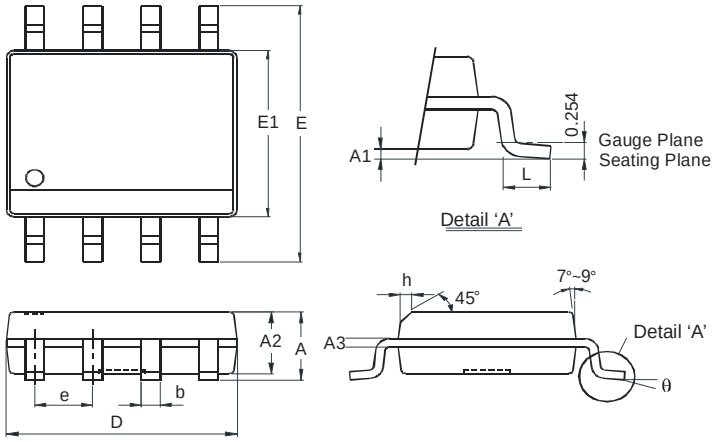


Fig. 13 Transient Thermal Resistance

Package Outline Dimensions

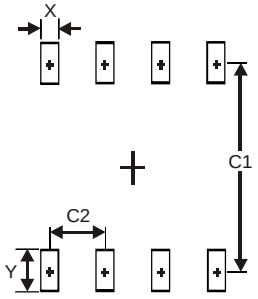
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



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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