

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
Continuous Drain Current (Note 6) V _{GS} = -10V	T _C = +25°C	I _D	-18.0	A
	T _C = +70°C		-14.3	
	T _A = +25°C	I _D	-10.6	A
	T _A = +70°C		-8.5	
Pulsed Drain Current (10μs pulse, duty cycle = 1%)		I _{DM}	-80	A
Maximum Continuous Body Diode Forward Current (Note 6)		I _S	-3.6	A
Avalanche Current (Note 7) L = 0.3mH		I _{AS}	-17.5	A
Avalanche Energy (Note 7) L = 0.3mH		E _{AS}	64	mJ

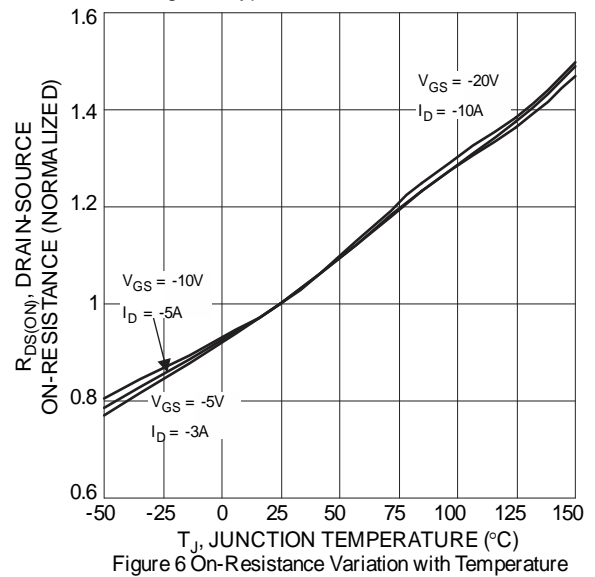
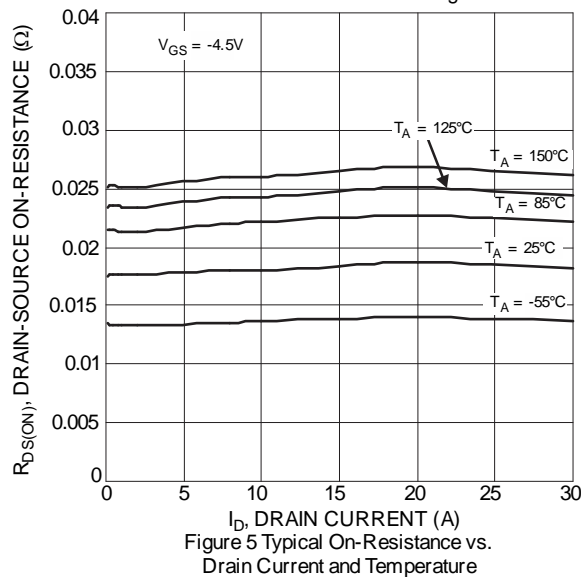
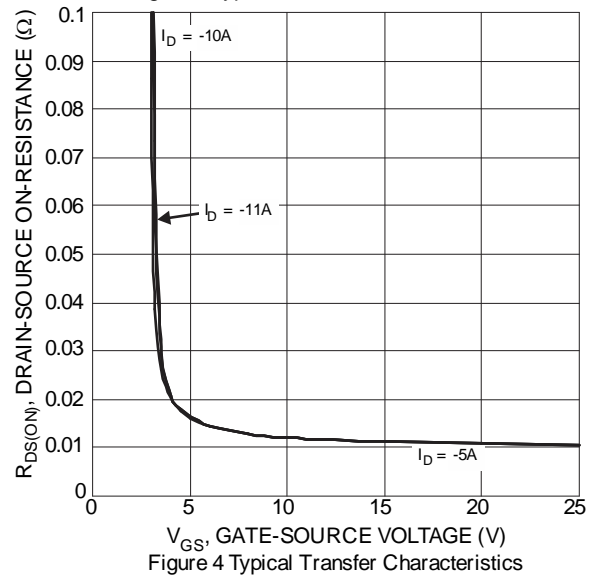
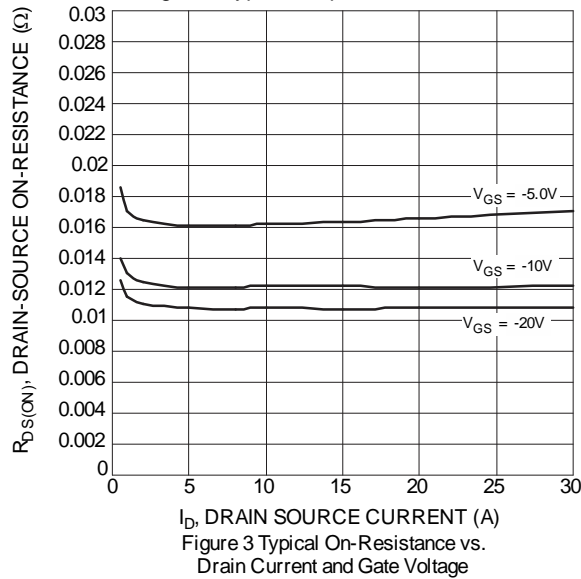
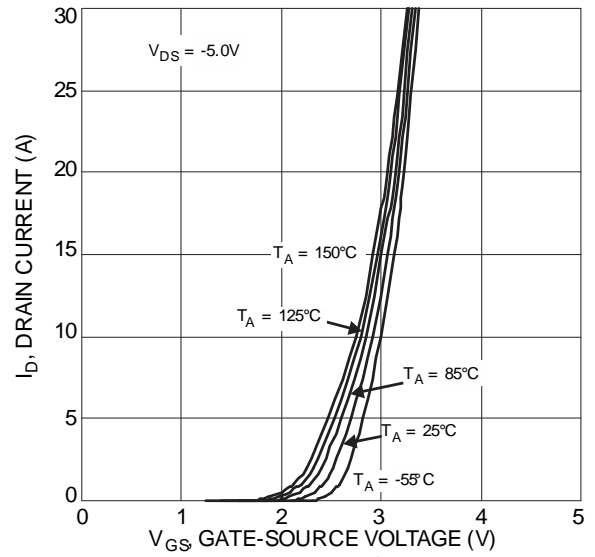
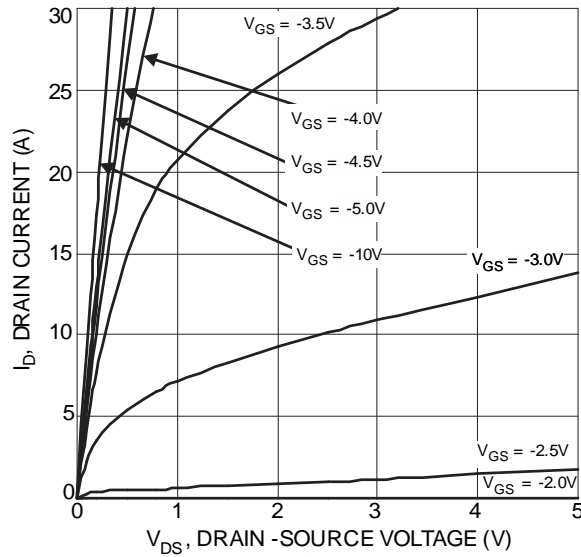
Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

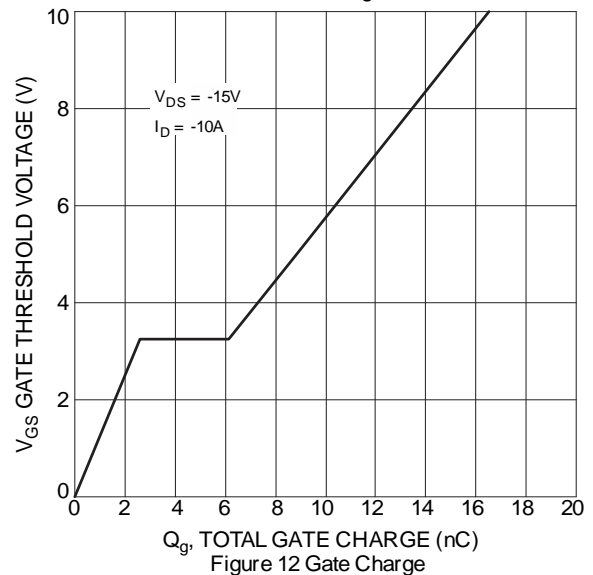
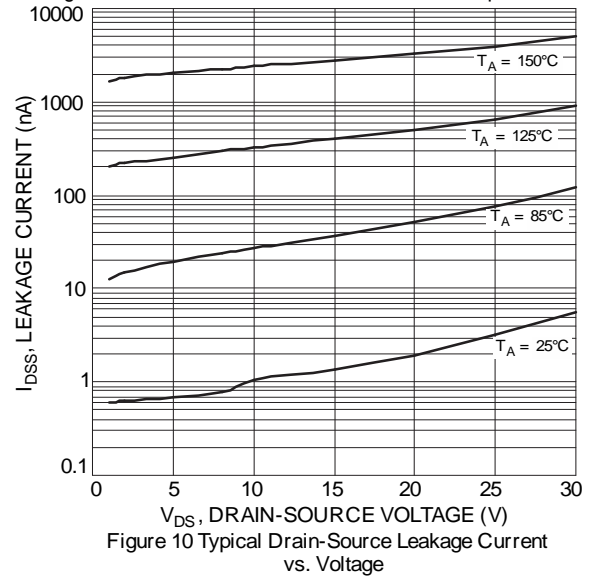
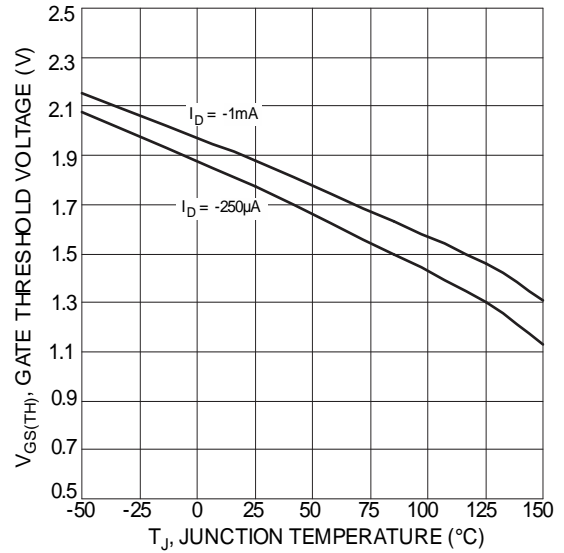
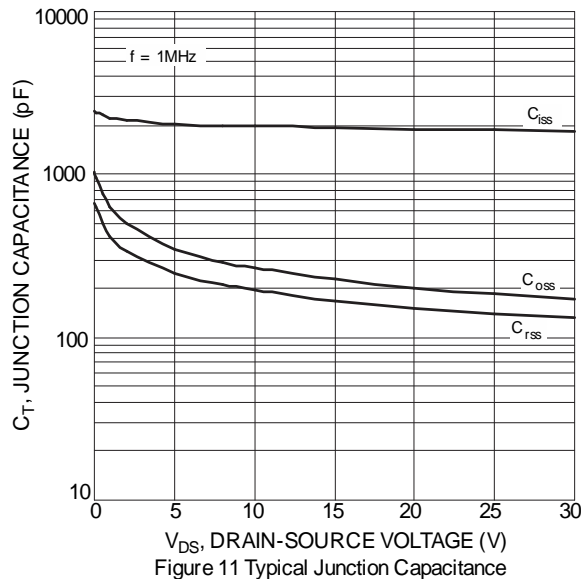
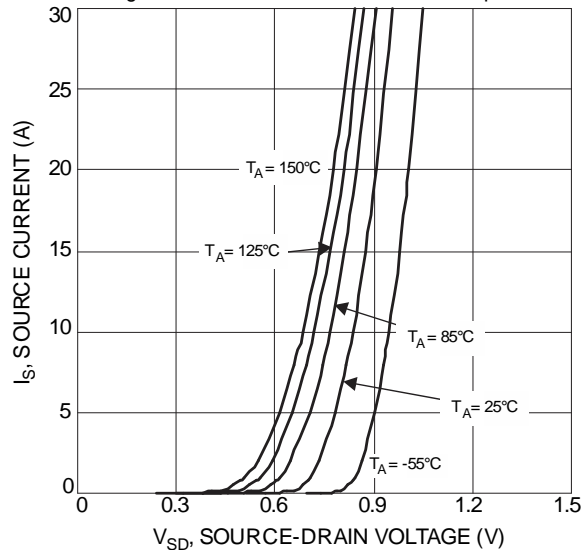
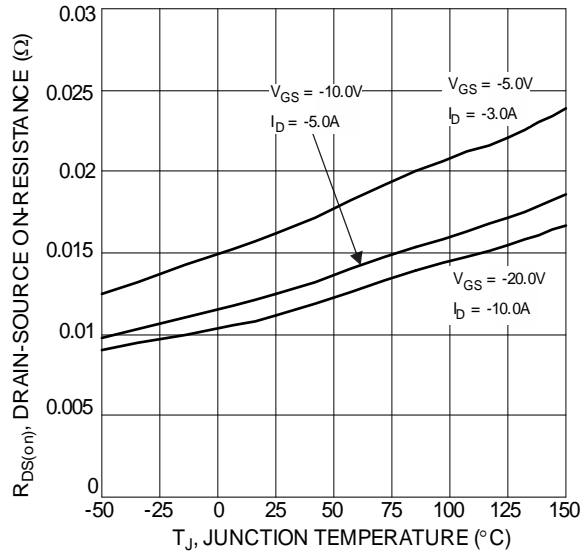
Characteristic		Symbol	Value	Units
Total Power Dissipation (Note 5)	T _A = +25°C	P _D	1.2	W
	T _A = +70°C		0.9	
Thermal Resistance, Junction to Ambient (Note 5)	Steady State	R _{θJA}	104	°C/W
	t<10s		45	
Total Power Dissipation (Note 6)	T _A = +25°C	P _D	1.7	W
	T _A = +70°C		1.1	
Thermal Resistance, Junction to Ambient (Note 6)	Steady State	R _{θJA}	72	°C/W
	t<10s		37	
Thermal Resistance, Junction to Case (Note 6)		R _{θJC}	13	
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C

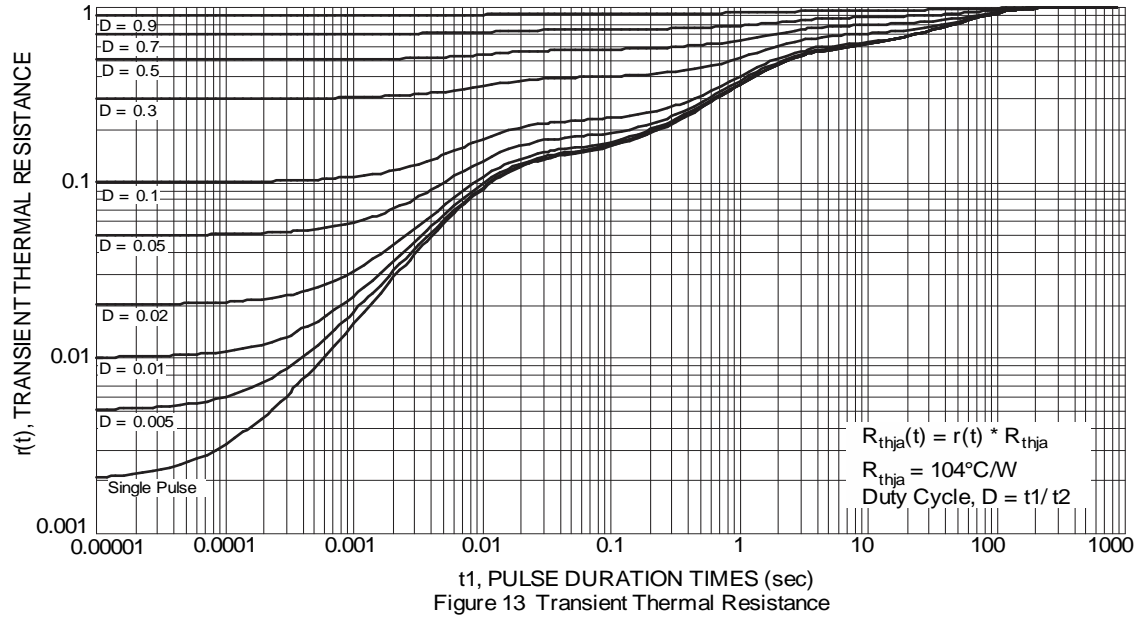
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)						
Drain-Source Breakdown Voltage	BV _{DSS}	-30	-	-	V	V _{GS} = 0V, I _D = -1mA
Zero Gate Voltage Drain Current T _J = +25°C	I _{DSS}	-	-	-1.0	μA	V _{DS} = -30V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	-	-	±100	nA	V _{GS} = ±25V, V _{DS} = 0V
ON CHARACTERISTICS (Note 8)						
Gate Threshold Voltage	V _{GS(th)}	-1.0	-1.7	-3.0	V	V _{DS} = V _{GS} , I _D = -250μA
Static Drain-Source On-Resistance	R _{DS(on)}	-	16	20	mΩ	V _{GS} = -10V, I _D = -9A
		-	22	29	mΩ	V _{GS} = -5V, I _D = -7A
Diode Forward Voltage	V _{SD}	-	-0.7	-1.0	V	V _{GS} = 0V, I _S = -1A
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C _{iss}	-	1931	-	pF	V _{DS} = -15V, V _{GS} = 0V, f = 1.0MHz
Output Capacitance	C _{oss}	-	226	-	pF	
Reverse Transfer Capacitance	C _{rss}	-	168	-	pF	
Gate Resistance	R _g	-	10.9	-	Ω	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz
Total Gate Charge at V _{GS} = -5V	Q _g	-	8.8	-	nC	V _{DS} = -15V, I _D = -10A
Total Gate Charge at V _{GS} = -10V	Q _g	-	16.5	-	nC	
Gate-Source Charge	Q _{gs}	-	2.6	-	nC	
Gate-Drain Charge	Q _{gd}	-	3.6	-	nC	
Turn-On Delay Time	t _{D(on)}	-	8.2	-	ns	V _{GEN} = -10V, V _{DD} = -15V, R _{GEN} = 3Ω, I _D = -10A
Turn-On Rise Time	t _r	-	14	-	ns	
Turn-Off Delay Time	t _{D(off)}	-	65	-	ns	
Turn-Off Fall Time	t _f	-	31.6	-	ns	

- Notes:
- Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
 - Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.
 - I_{AS} and E_{AS} rating are based on low frequency and duty cycles to keep T_J = +25°C.
 - Short duration pulse test used to minimize self-heating effect.
 - Guaranteed by design. Not subject to product testing.

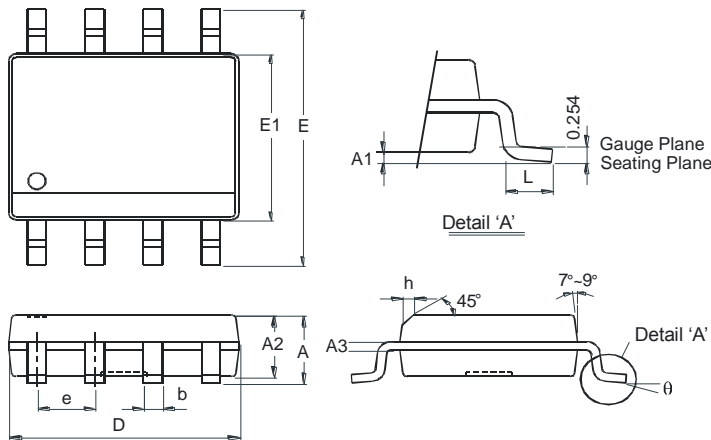






Package Outline Dimensions

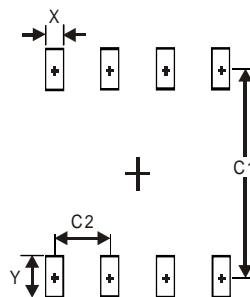
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



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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