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

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V_{DSS}	-20	V
Gate-Source Voltage			V_{GSS}	±8	V
Continuous Drain Current (Note 6) V_{GS} = -4.5V	Steady State	T_A = +25°C T_A = +70°C	I_D	-4.23 -2.98	A
Continuous Drain Current (Note 6) V_{GS} = -2.5V	Steady State	T_A = +25°C T_A = +70°C	I_D	-3.49 -2.79	A
Maximum Continuous Body Diode Forward Current (Note 6)			I_S	-4.23	A
Pulsed Drain Current (10µs pulse, duty cycle = 1%)			I_{DM}	-16	A

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

Characteristic		Symbol	Value	Units
Total Power Dissipation	(Note 5)	P_D	1.25	W
	(Note 6)		1.64	
Thermal Resistance, Junction to Ambient	(Note 5)	$R_{\theta JA}$	100	°C/W
	(Note 6)		76	
Thermal Resistance, Junction to Case	(Note 6)	$R_{\theta JC}$	14	
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

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.

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

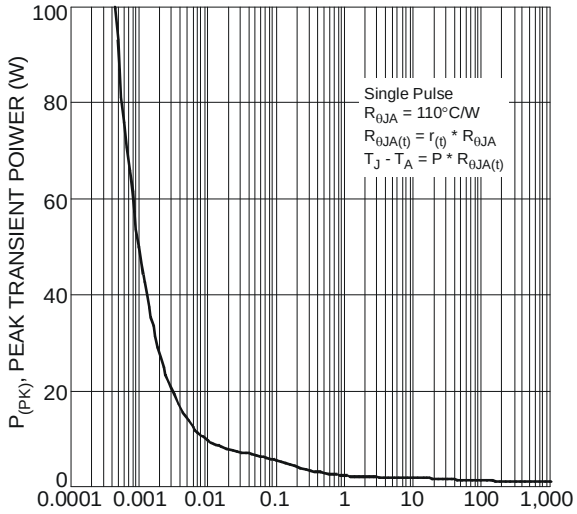


Figure 1 Single Pulse Maximum Power Dissipation

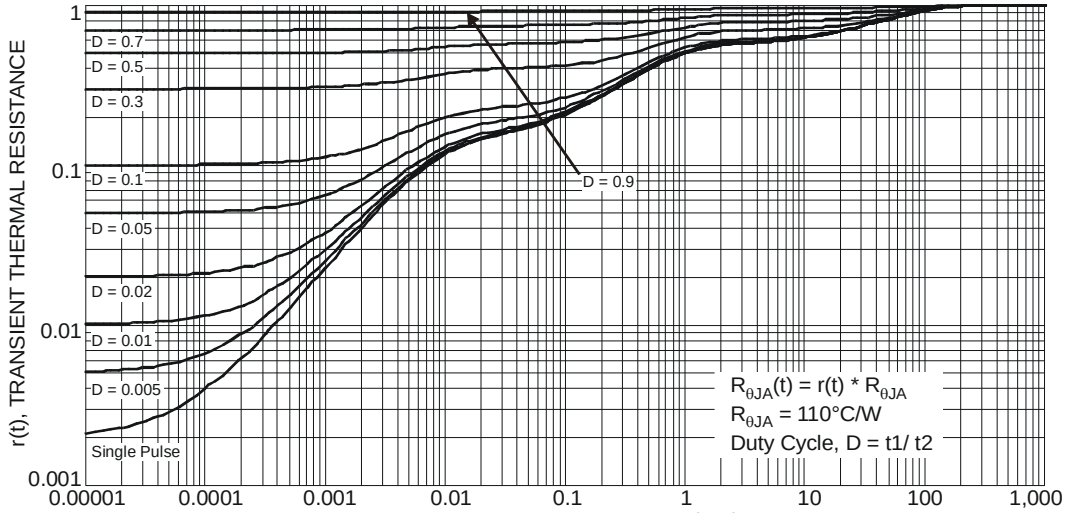


Figure 2 Transient Thermal Resistance

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}	-20	—	—	V	V_{GS} = 0V, I_D = -250μA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-1	μA	V_{DS} = -20V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	±100	nA	V_{GS} = ±8V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(th)}$	-0.5	—	-0.9	V	V_{DS} = V_{GS}, I_D = -250μA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	—	45	60	mΩ	V_{GS} = -4.5V, I_D = -4.2A
		—	60	90		V_{GS} = -2.5V, I_D = -3.4A
		—	87	113		V_{GS} = -1.8V, I_D = -2.0A
Forward Transfer Admittance	$\|Y_{fs}\|$	—	9	—	S	V_{DS} = -5V, I_D = -4A
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	727	—	pF	V_{DS} = -20V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	69	—		
Reverse Transfer Capacitance	C_{rss}	—	64	—		
Gate Resistance	R_G	—	23	—	Ω	V_{GS} = 0V, V_{DS} = 0V, f = 1.0MHz
Total Gate Charge	Q_g	—	7.6	—	nC	V_{GS} = -4.5V, V_{DS} = -4V, I_D = -3.5A
Gate-Source Charge	Q_{gs}	—	1.4	—		
Gate-Drain Charge	Q_{gd}	—	1.2	—		
Turn-On Delay Time	$t_{D(on)}$	—	14.0	—	ns	V_{DS} = -4V, V_{GS} = -4.5V, R_L = 4Ω, R_G = 6Ω, I_D = -1A
Turn-On Rise Time	t_r	—	13.0	—		
Turn-Off Delay Time	$t_{D(off)}$	—	53.8	—		
Turn-Off Fall Time	t_f	—	23.2	—		

Notes: 7. Short duration pulse test used to minimize self-heating effect.
8. Guaranteed by design. Not subject to product testing.

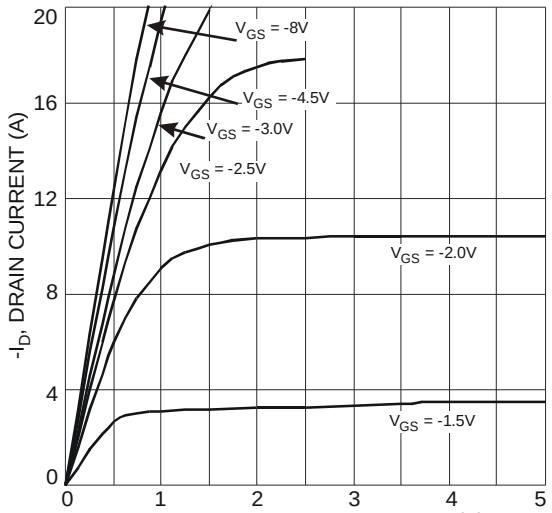


Figure 3 Typical Output Characteristic

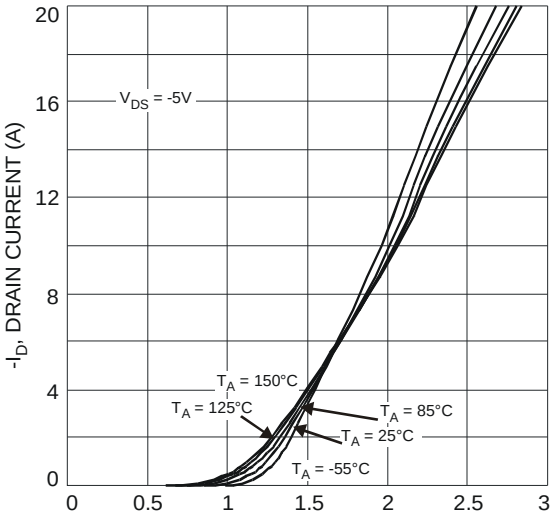


Figure 4 Typical Transfer Characteristic

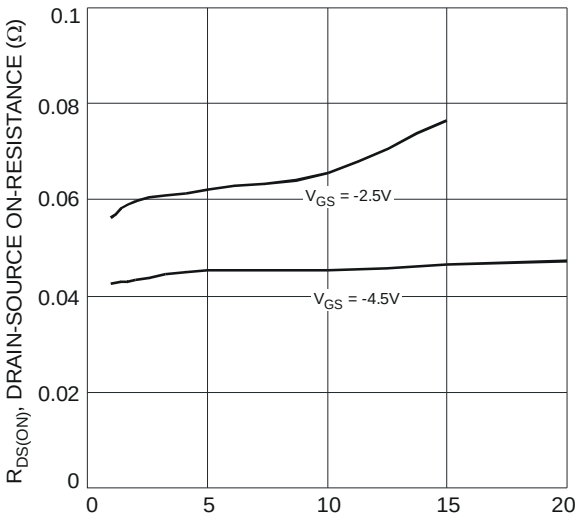


Figure 5 Typical On-Resistance
vs. Drain Current and Gate Voltage

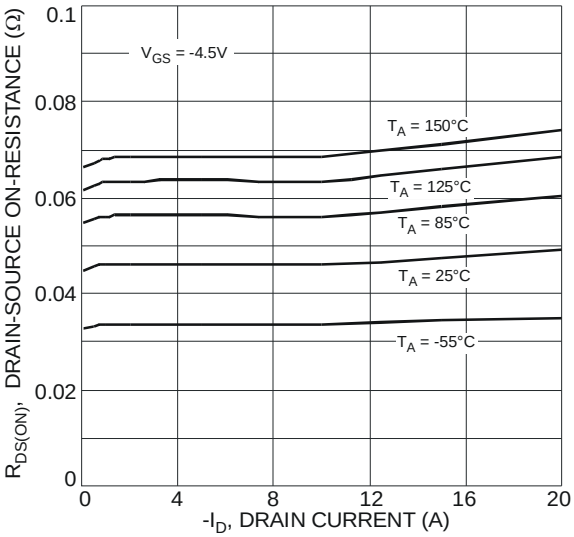


Figure 6 Typical On-Resistance
vs. Drain Current and Temperature

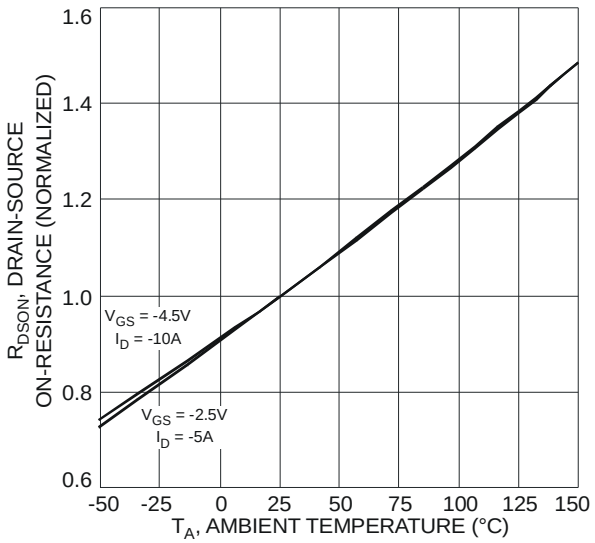


Figure 7 On-Resistance Variation with Temperature

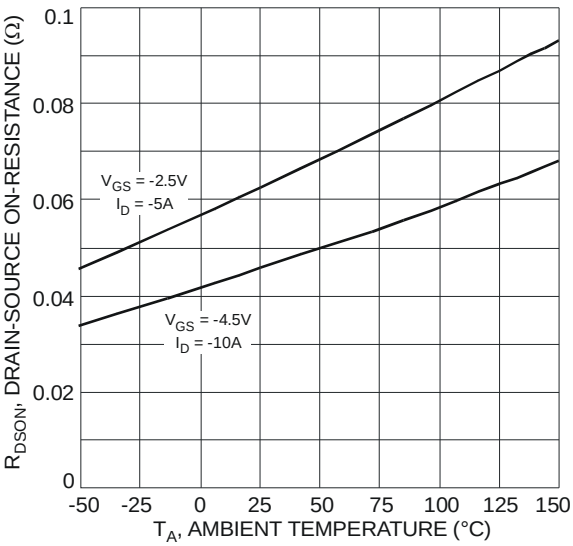


Figure 8 On-Resistance Variation with Temperature

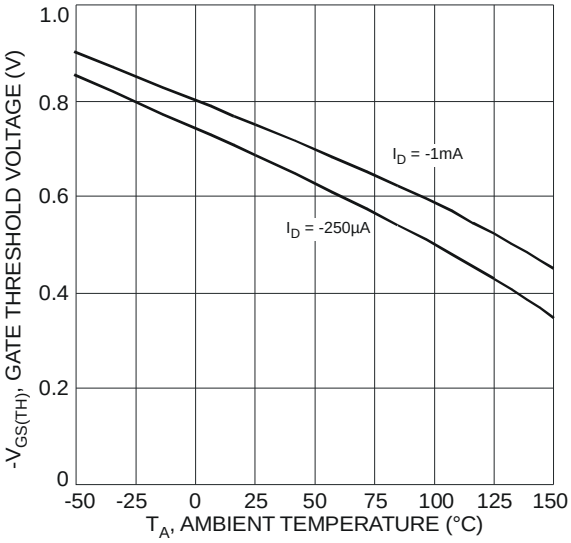


Figure 9 Gate Threshold Variation vs. Ambient Temperature

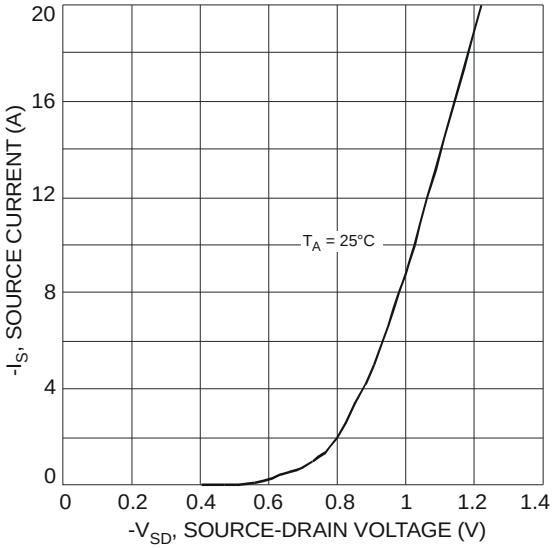


Figure 10 Diode Forward Voltage vs. Current

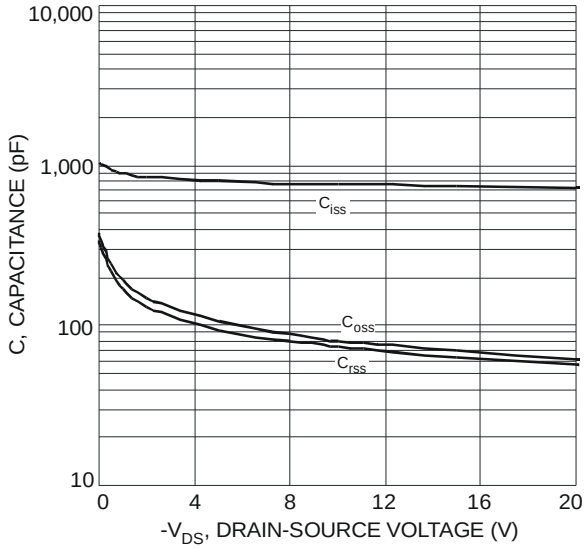


Figure 11 Typical Total Capacitance

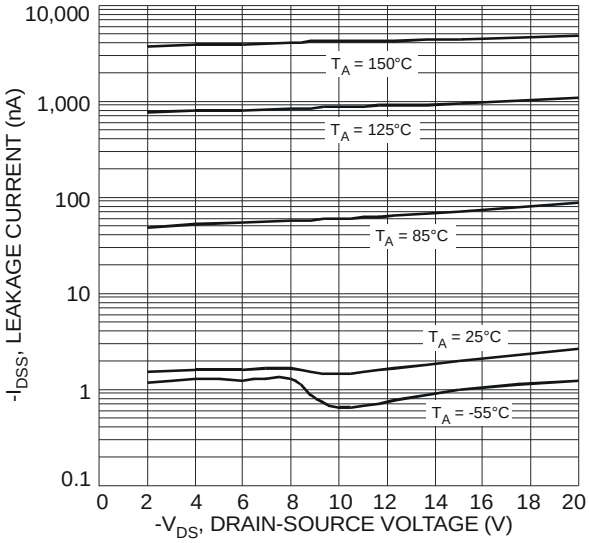
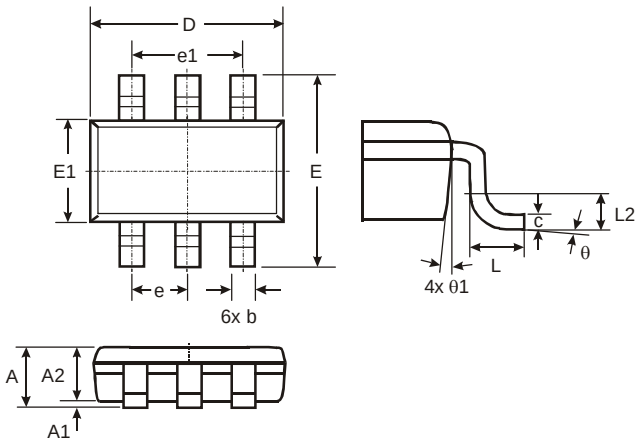


Figure 12 Typical Leakage Current vs. Drain-Source Voltage

Package Outline Dimensions

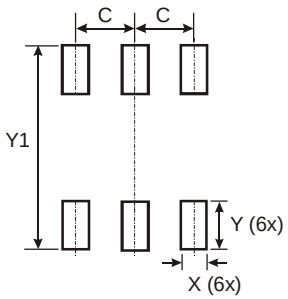
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



TSOT26			
Dim	**Min**	**Max**	**Typ**
A	–	1.00	–
A1	0.01	0.10	–
A2	0.84	0.90	–
D	–	–	2.90
E	–	–	2.80
E1	–	–	1.60
b	0.30	0.45	–
c	0.12	0.20	–
e	–	–	0.95
e1	–	–	1.90
L	0.30	0.50	
L2	–	–	0.25
θ	0°	8°	4°
θ1	4°	12°	–
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)
C	0.950
X	0.700
Y	1.000
Y1	3.199

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