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

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V_{DSS}	-16	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	-2.5 -2.2	A
Pulsed Drain Current (Note 6)			I_{DM}	-12	A

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Total Power Dissipation (Note 5)		P_D	0.65	W
Thermal Resistance, Junction to Ambient (Note 5)	Steady State	$R_{\theta JA}$	197	°C/W
Total Power Dissipation (Note 6)		P_D	1.35	W
Thermal Resistance, Junction to Ambient (Note 6)	Steady State	$R_{\theta JA}$	95	°C/W
Thermal Resistance, Junction to Case (Note 6)		$R_{\theta JC}$	22	
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}	-16	—	—	V	V_{GS} = 0V, I_D = -250µA
Zero Gate Voltage Drain Current	T_J = +25°C	I_{DSS}	—	—	-1.0	µA	V_{DS} = -16V, V_{GS} = 0V
Gate-Source Leakage		I_{GSS}	—	—	±10 ±500	µA nA	V_{GS} = ±8V, V_{DS} = 0V V_{GS} = ±5V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)							
Gate Threshold Voltage		$V_{GS(TH)}$	-0.3	-0.55	-1.0	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance		$R_{DS(ON)}$	—	31	39	mΩ	V_{GS} = -4.5V, I_D = -4.0A
				40	52		V_{GS} = -2.5V, I_D = -3.5A
				51	65		V_{GS} = -1.8V, I_D = -2.0A
Forward Transfer Admittance		$\|Y_{fs}\|$	—	7.9	—	S	V_{DS} = -5V, I_D = -2.5A
DYNAMIC CHARACTERISTICS (Note 8)							
Input Capacitance		C_{iss}	—	282	—	pF	V_{DS} = -10V, V_{GS} = 0V f = 1.0MHz
Output Capacitance		C_{oss}	—	152	—	pF	
Reverse Transfer Capacitance		C_{rss}	—	38	—	pF	
Gate Resistance		R_g	—	250	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge		Q_g	—	10	—	nC	V_{GS} = -4.5V, V_{DS} = -10V, I_D = -4A
Gate-Source Charge		Q_{gs}	—	1.5	—	nC	
Gate-Drain Charge		Q_{gd}	—	2.4	—	nC	
Turn-On Delay Time		$t_{D(ON)}$	—	79	—	ns	V_{DS} = -10V, V_{GS} = -4.5V, R_D = 2.5Ω, R_G = 3.0Ω
Turn-On Rise Time		t_R	—	175	—	ns	
Turn-Off Delay Time		$t_{D(OFF)}$	—	885	—	ns	
Turn-Off Fall Time		t_F	—	568	—	ns	

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.

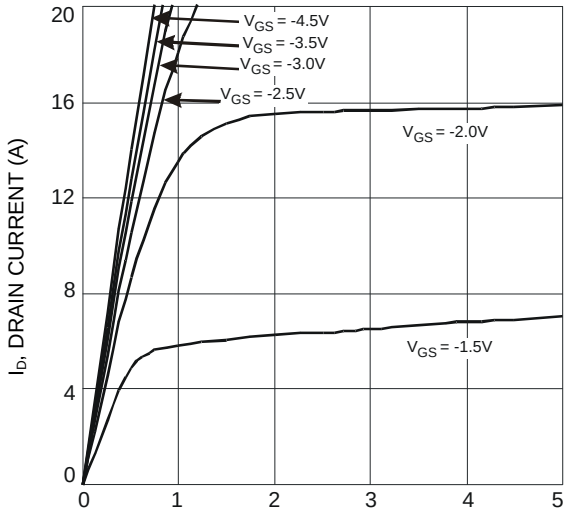


Fig. 1 Typical Output Characteristic

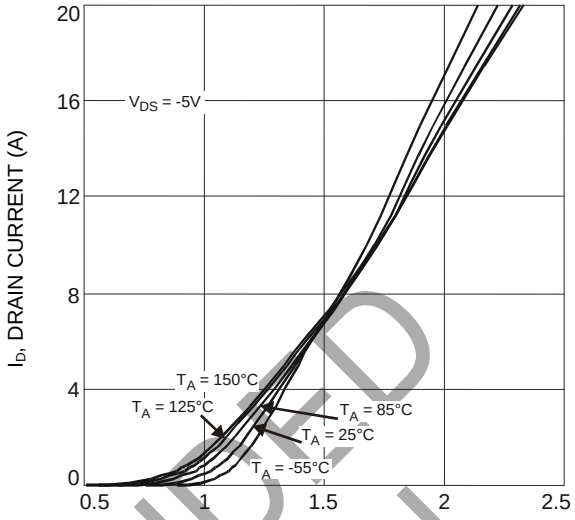


Fig. 2 Typical Transfer Characteristic

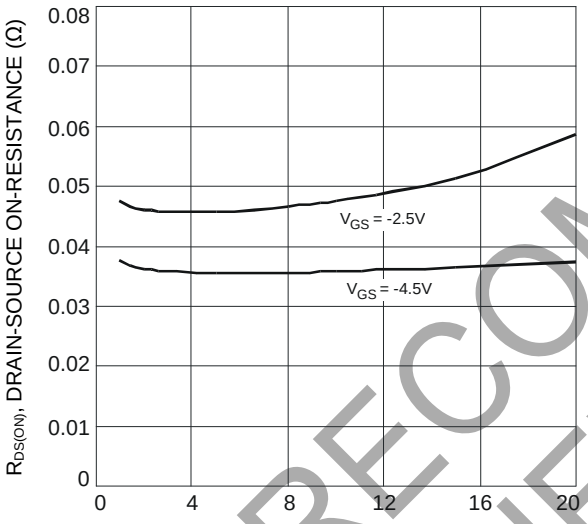


Fig. 3 Typical On-Resistance
vs. Drain Current and Gate Voltage

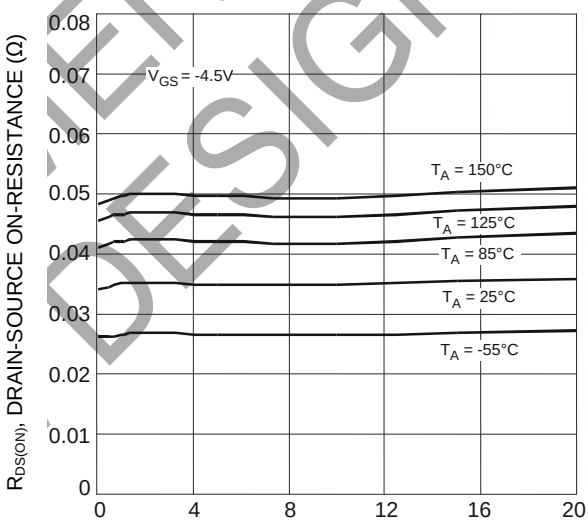


Fig. 4 Typical On-Resistance
vs. Drain Current and Temperature

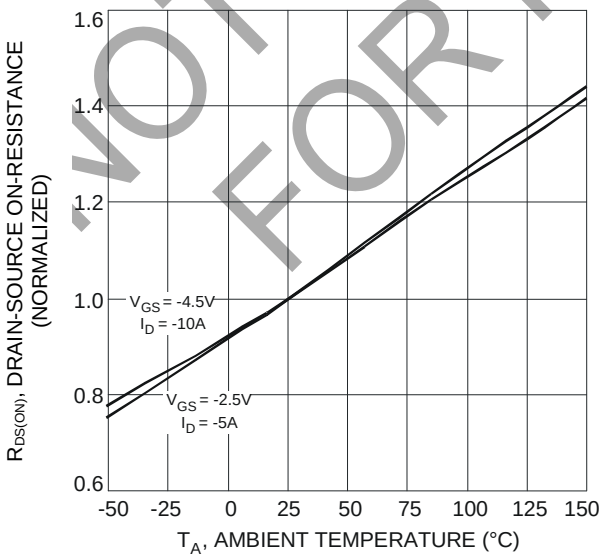


Fig. 5 On-Resistance Variation with Temperature

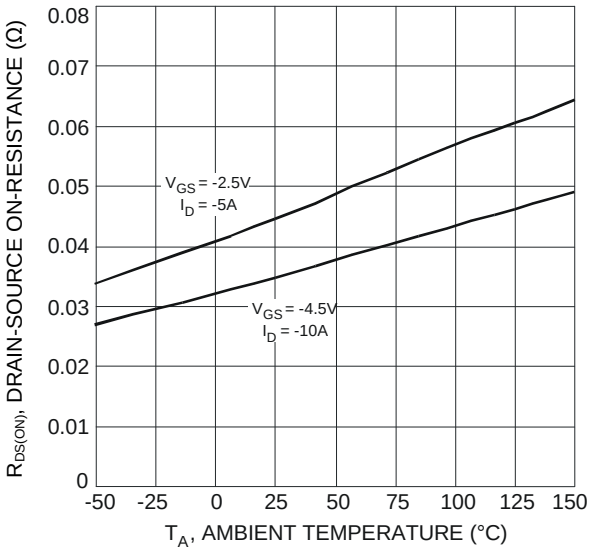


Fig. 6 On-Resistance Variation with Temperature

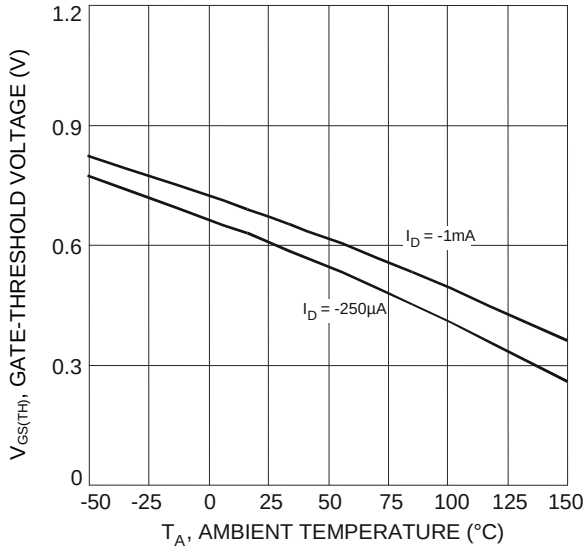


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

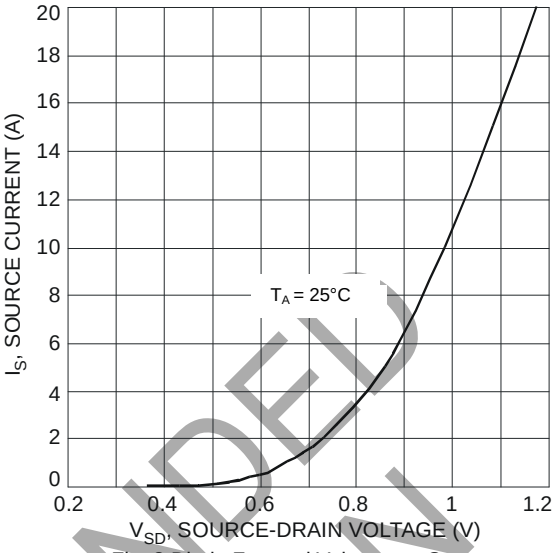


Fig. 8 Diode Forward Voltage vs. Current

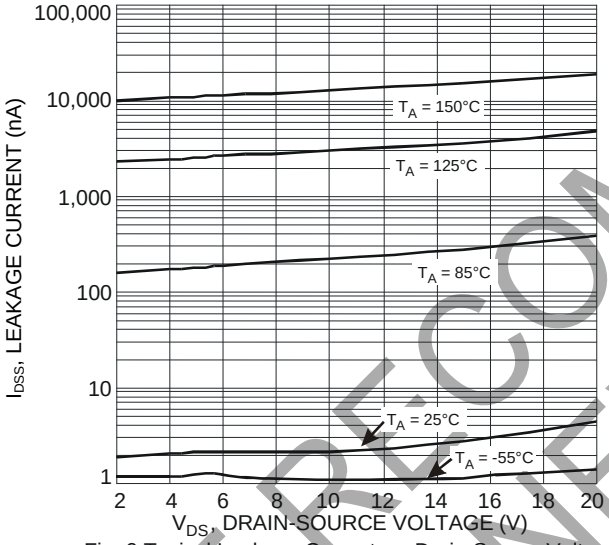


Fig. 9 Typical Leakage Current vs. Drain-Source Voltage

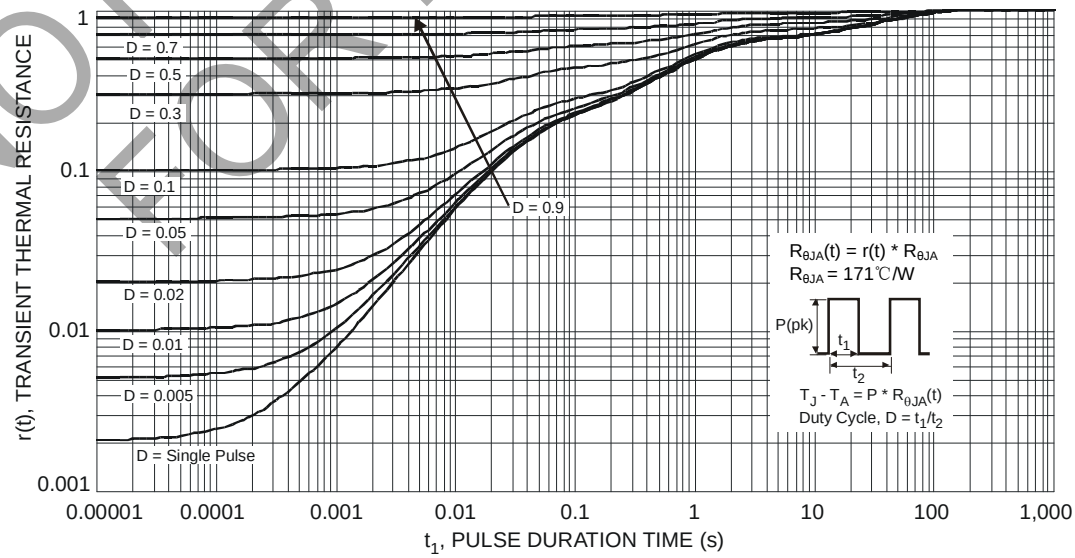
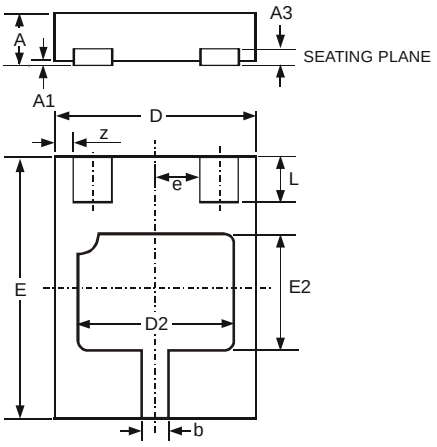


Fig. 10 Transient Thermal Response

Package Outline Dimensions

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

X2-DFN2015-3

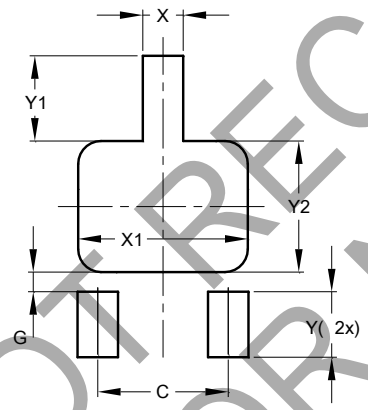


X2-DFN2015-3			
Dim	**Min**	**Max**	**Typ**
A	-	0.40	-
A1	0	0.05	0.02
A3	-	-	0.13
b	0.20	0.30	0.25
D	1.45	1.575	1.5
D2	1.00	1.20	1.10
e	-	-	0.50
E	1.95	2.075	2.00
E2	0.70	0.90	0.80
L	0.25	0.35	0.30
z	-	-	0.125
All Dimensions in mm			

Suggested Pad Layout

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

X2-DFN2015-3



X2-DFN2015-3	
Dimensions	**Value (in mm)**
C	1.000
G	0.150
X	0.310
X1	1.300
Y	0.500
Y1	0.650
Y2	1.000

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