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

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V_{DSS}	-20	V
Gate-Source Voltage			V_{GSS}	±12	V
Continuous Drain Current (Note 5)	Steady State	T_A = +25°C T_A = +70°C	I_D	-2.6 -2	A
Pulsed Drain Current (Note 6)			I_{DM}	-8	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_D	1.08	W
Thermal Resistance, Junction to Ambient @T_A = +25°C (Note 5)	$R_{\theta JA}$	115	°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}	-20	—	—	V	V_{GS} = 0V, I_D = -250µA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-800	nA	V_{DS} = -20V, V_{GS} = 0V
On-State Drain Current	$I_{D(ON)}$	-6	—	—	A	V_{DS} ≤ -5V, V_{GS} = -4.5V
		-3	—	—		V_{DS} ≤ -5V, V_{GS} = -2.5V
Gate-Source Leakage	I_{GSS}	—	—	±80	nA	V_{GS} = ±12V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	-0.45	—	-1.25	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	80	110	mΩ	V_{GS} = -4.5V, I_D = -2.6A
			165	225		V_{GS} = -2.5V, I_D = -2.0A
Forward Transfer Admittance	$\|Y_{fs}\|$	—	4	—	s	V_{DS} = -5V, I_D = -2.6A
Diode Forward Voltage (Note 6)	V_{SD}	—	—	-1.26	V	V_{GS} = 0V, I_S = -2.6A
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	250	—	pF	V_{DS} = -10V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	88	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	58	—	pF	
Gate Resistance	R_g	—	12	16	Ω	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz
Total Gate Charge	Q_g	—	4.3	5.3	nC	V_{GS} = -4.5V, V_{DS} = -10V, I_D = -2.7A
Gate-Source Charge	Q_{gs}	—	0.9	—		
Gate-Drain Charge	Q_{gd}	—	2.1	—		

Notes:
5. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
6. Repetitive rating, pulse width limited by junction temperature.
7. Short duration pulse test used to minimize self-heating effect.
8. Guaranteed by design. Not subject to production testing.

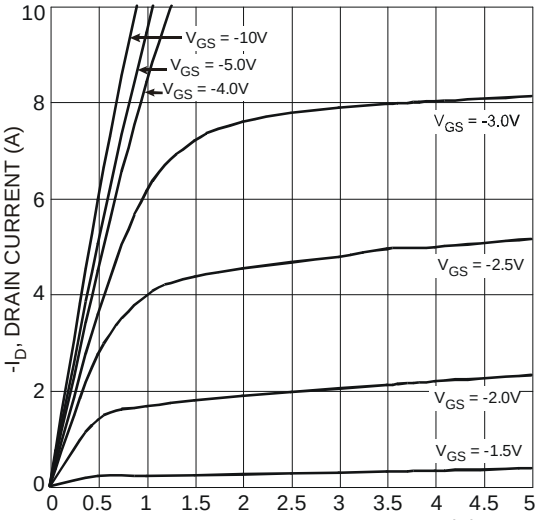


Figure 1 Typical Output Characteristics

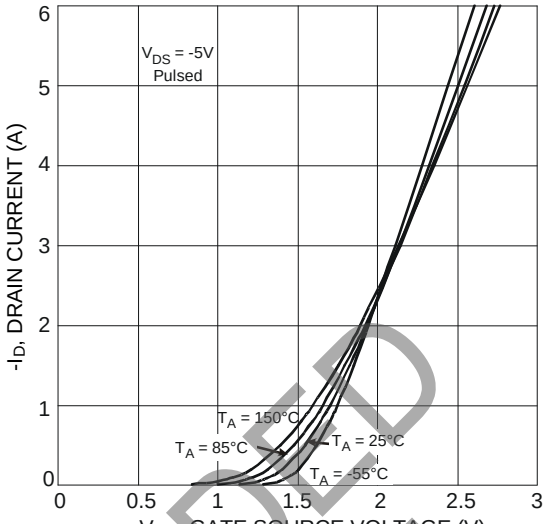


Figure 2 Typical Transfer Characteristics

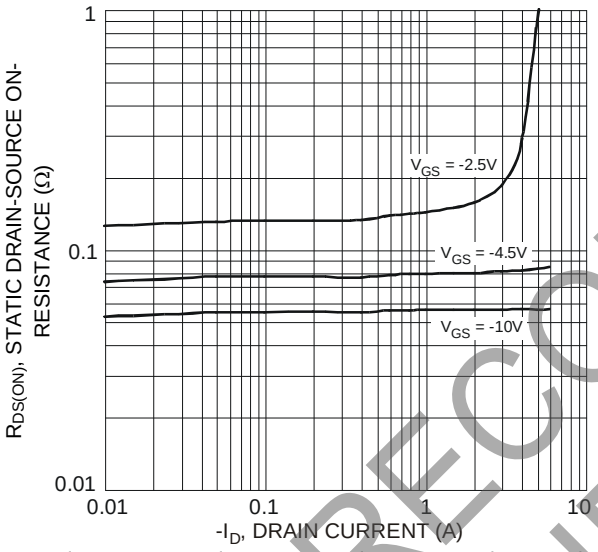


Figure 3 On-Resistance vs. Drain Current and Gate Voltage

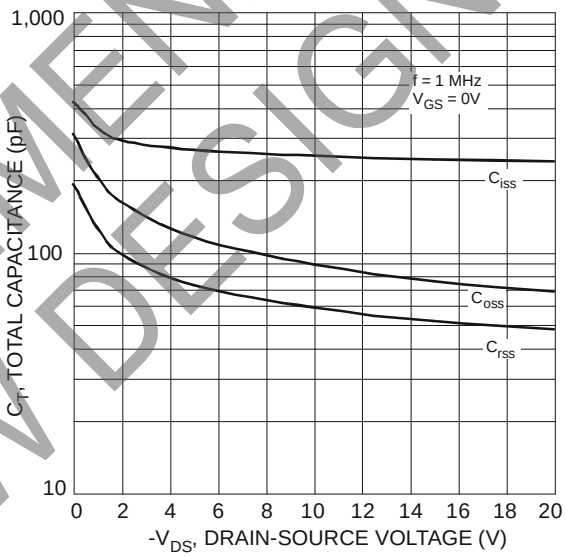


Figure 4 Typical Total Capacitance

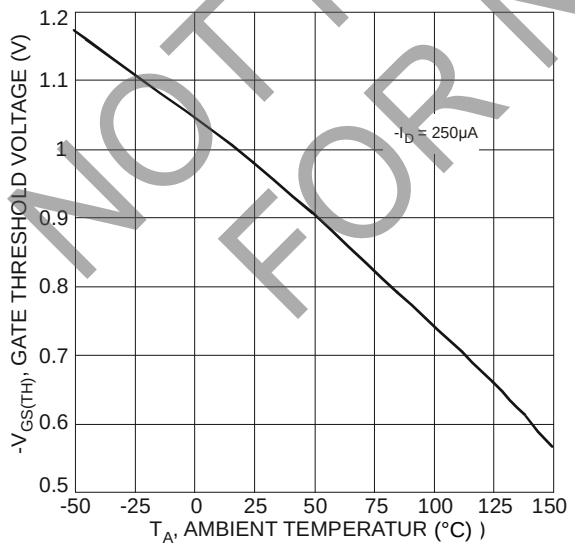


Figure 5 Gate Threshold Voltage vs. Ambient Temperature

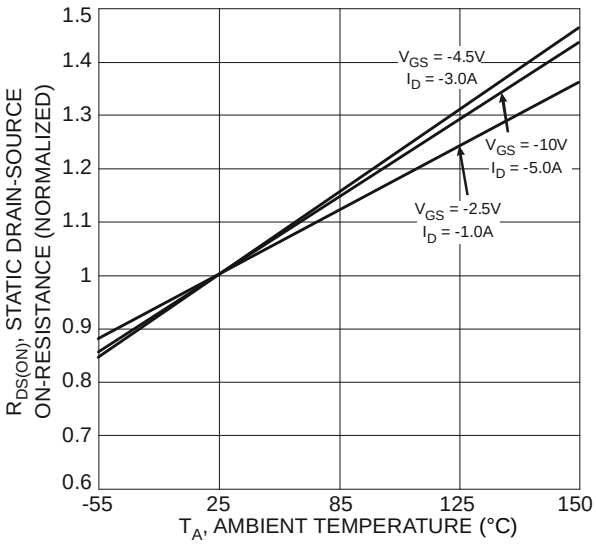


Figure 6 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

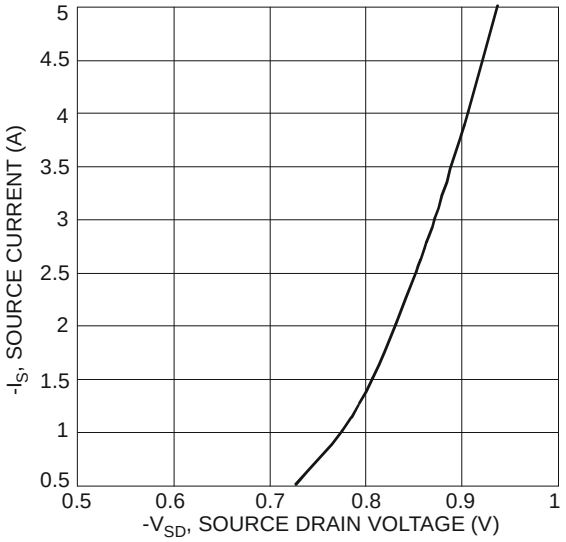


Figure 7 Reverse Drain Current vs. Source-Drain Voltage

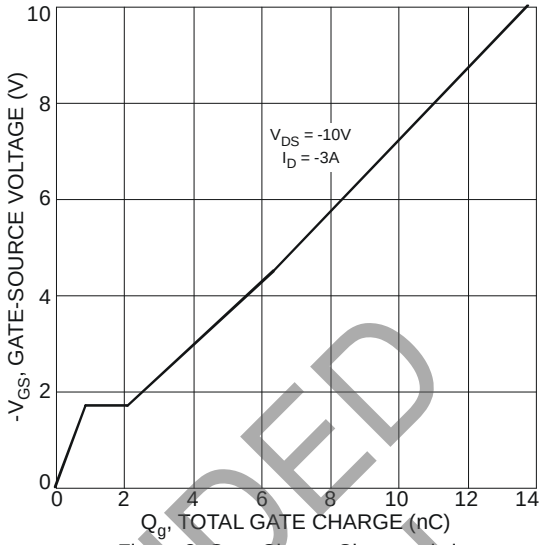


Figure 8 Gate-Charge Characteristics

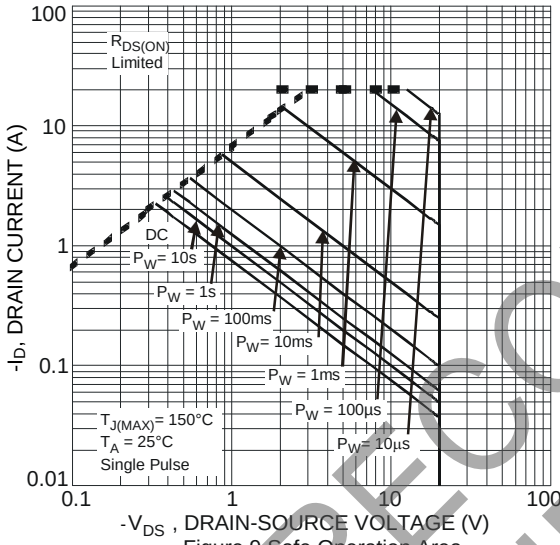


Figure 9 Safe Operation Area

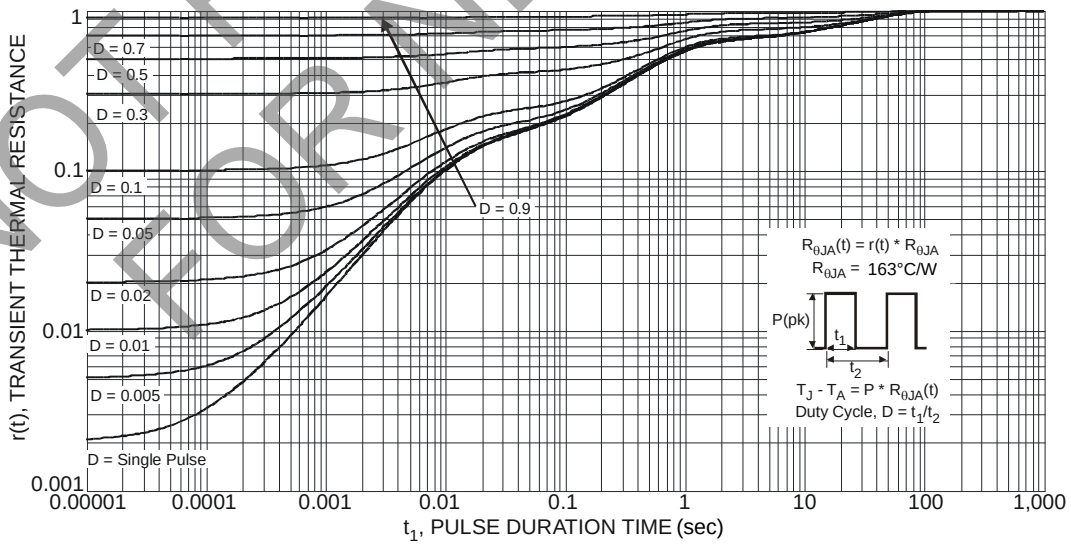
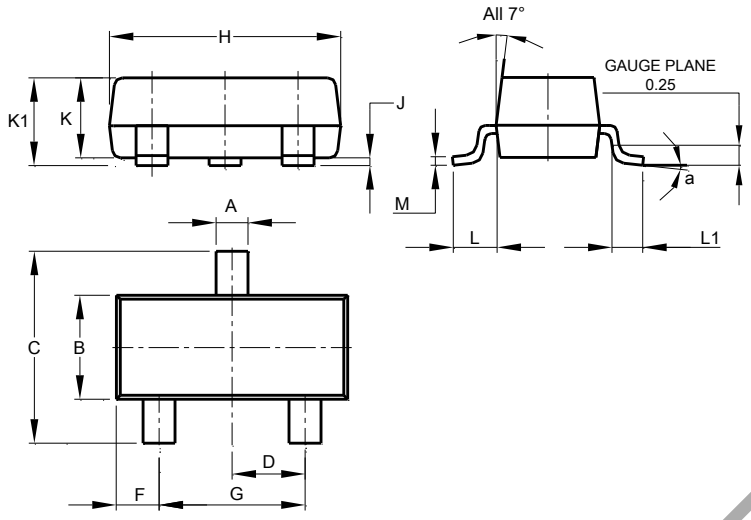


Figure 10 Transient Thermal Response

Package Outline Dimensions

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

SOT23

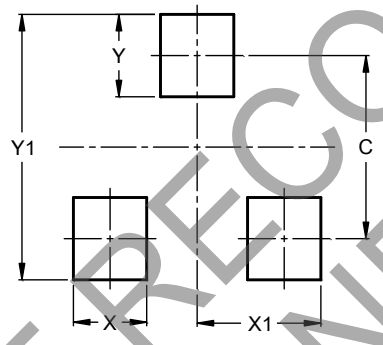


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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