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}	±20	V
Continuous Drain Current (Note 5)	V_{GS} = 10V	Steady State	T_A = +25°C T_A = +70°C	I_D	220 170	mA
Continuous Drain Current (Note 6)	V_{GS} = 10V	Steady State	T_A = +25°C T_A = +70°C	I_D	260 210	mA
Pulsed Drain Current (10µs Pulse, Duty Cycle = 1%)				I_{DM}	800	mA

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

Characteristic		Symbol	Value	Unit
Total Power Dissipation	(Note 5)	P_D	300	mW
	(Note 6)		400	
Thermal Resistance, Junction to Ambient	(Note 5)	$R_{\theta JA}$	435	°C/W
	(Note 6)		330	
Thermal Resistance, Junction to Case	(Note 6)	$R_{\theta JC}$	139	
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}	30	—	—	V	V_{GS} = 0V, I_D = 250µA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	1.0	µA	V_{DS} = 30V, V_{GS} = 0V
Gate-Body Leakage	I_{GSS}	—	—	±10.0	µA	V_{GS} = ±20V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	0.8	—	1.5	V	V_{DS} = V_{GS}, I_D = 250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	—	2.8	Ω	V_{GS} = 10.0V, I_D = 250mA
		—	—	3.8		V_{GS} = 5V, I_D = 250mA
		—	—	4.2		V_{GS} = 4.5V, I_D = 250mA
		—	—	4.5		V_{GS} = 4.0V, I_D = 250mA
		—	—	13		V_{GS} = 2.5V, I_D = 10mA
Forward Transconductance	g_{FS}	80	—	—	mS	V_{DS} = 10V, I_D = 0.115A
Diode Forward Voltage	V_{SD}	—	0.8	1.2	V	V_{GS} = 0V, I_S = 115mA
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	22.0	—	pF	V_{DS} = 25V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	—	3.2	—		
Reverse Transfer Capacitance	C_{rss}	—	2.0	—		
Gate Resistance	R_G	—	79.9	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge (V_{GS} = 10V)	Q_g	—	0.87	—	nC	V_{DS} = 30V, I_D = 150mA
Total Gate Charge (V_{GS} = 4.5V)	Q_g	—	0.43	—		
Gate-Source Charge	Q_{gs}	—	0.11	—		
Gate-Drain Charge	Q_{gd}	—	0.11	—		
Turn-On Delay Time	$t_{D(ON)}$	—	3.3	—	ns	V_{DD} = 30V, I_D = 0.115A, V_{GEN} = 10V, R_{GEN} = 25Ω
Turn-On Rise Time	t_R	—	3.2	—		
Turn-Off Delay Time	$t_{D(OFF)}$	—	12.0	—		
Turn-Off Fall Time	t_F	—	6.3	—		

Notes:
5. Device mounted on FR-4 PC board, with minimum recommended pad layout, single sided.
6. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper pad layout.
7. Short duration pulse test used to minimize self-heating effect.
8. Guaranteed by design. Not subject to production testing.

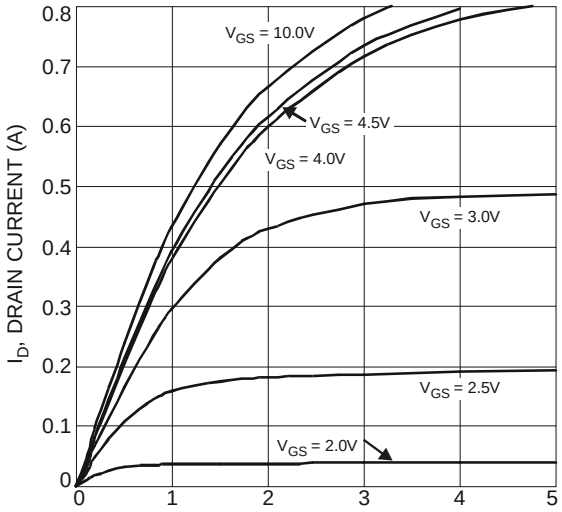


Figure 1 Typical Output Characteristic

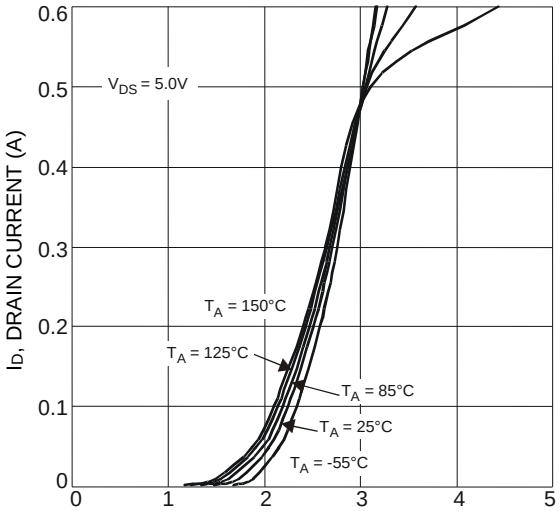


Figure 2 Typical Transfer Characteristics

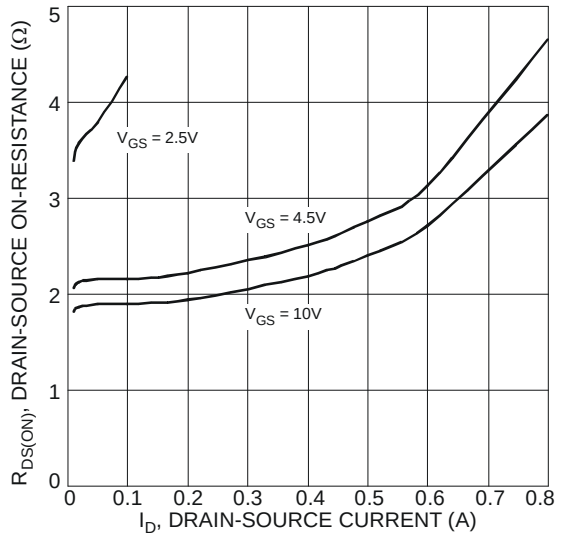


Figure 3 Typical On-Resistance vs. Drain Current and Gate Voltage

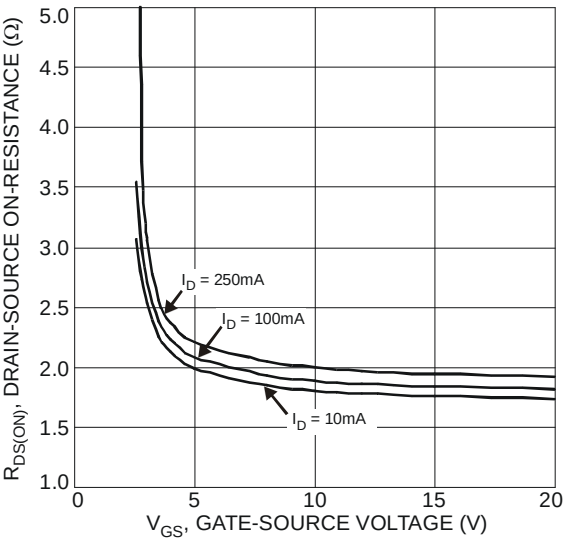


Figure 4 Typical Drain-Source On-Resistance vs. Gate-Source Voltage

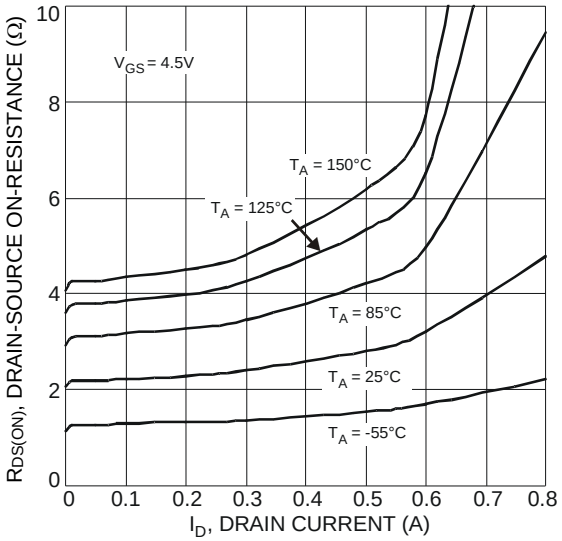


Figure 5 Typical On-Resistance vs. Drain Current and Temperature

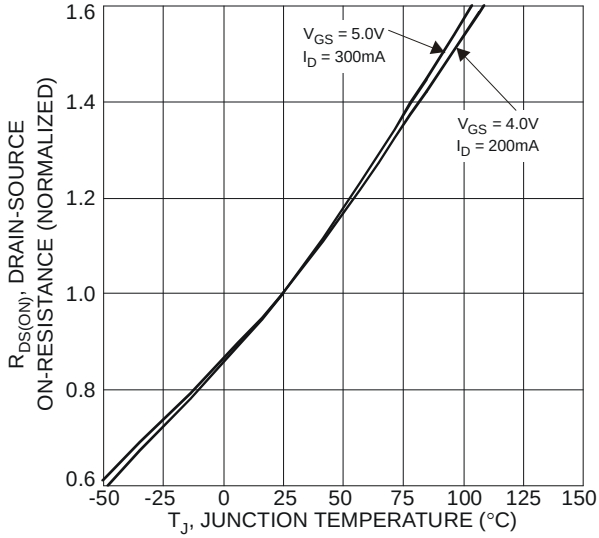


Figure 6 On-Resistance Variation with Temperature

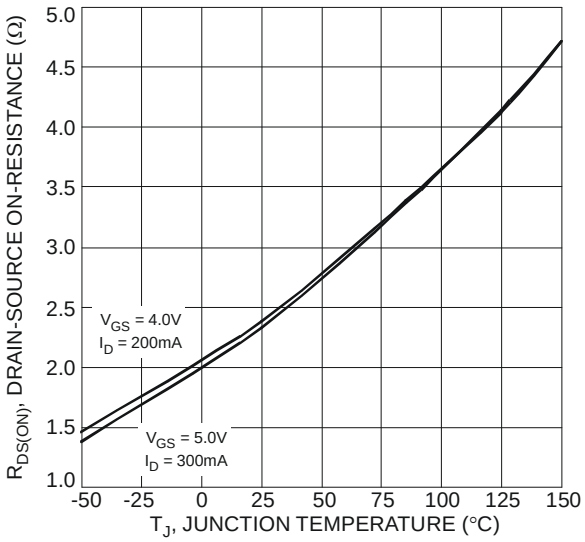


Figure 7 On-Resistance Variation with Temperature

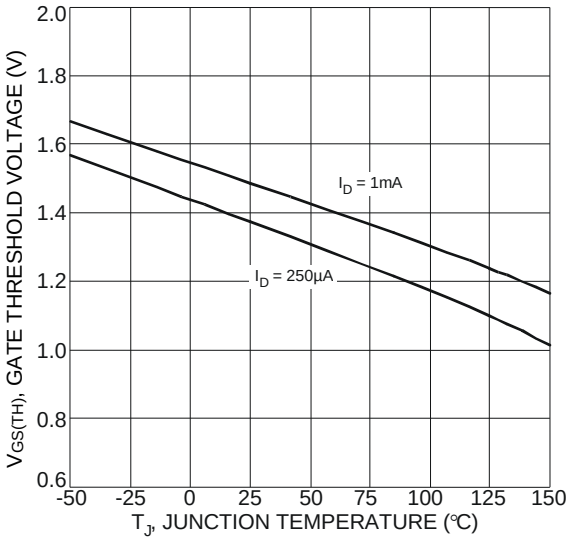


Figure 8 Gate Threshold Variation vs. Junction Temperature

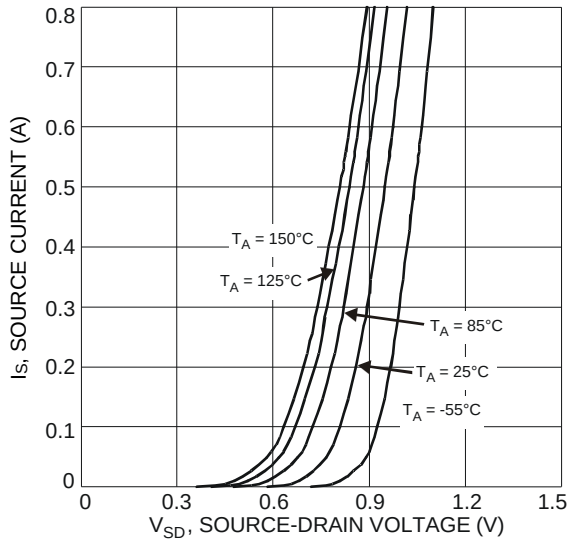
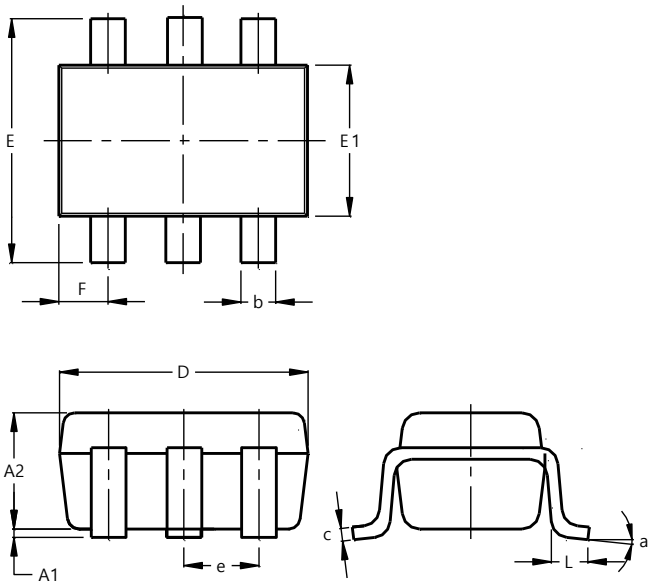


Figure 9 Diode Forward Voltage vs. Current

Package Outline Dimensions

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

SOT363 (Standard)

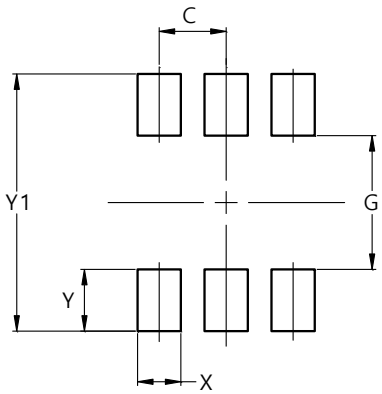


SOT363 (Standard)			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.80	1.00	0.90
b	0.10	0.35	0.225
c	0.08	0.22	0.15
D	1.80	2.20	2.00
E	2.00	2.45	2.225
E1	1.15	1.35	1.25
e	--	--	0.65
F	0.25	0.45	0.35
L	0.25	0.46	0.355
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOT363 (Standard)



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500

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