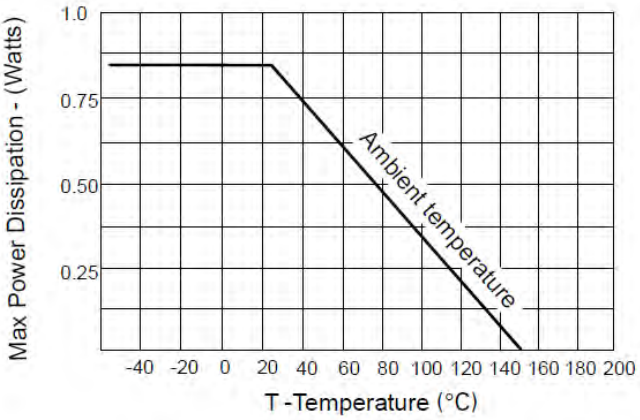
Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current	I_D	1.1	A
Practical Continuous Drain Current	I_{DP}	1.3	A
Pulsed Drain Current	I_{DM}	15	A

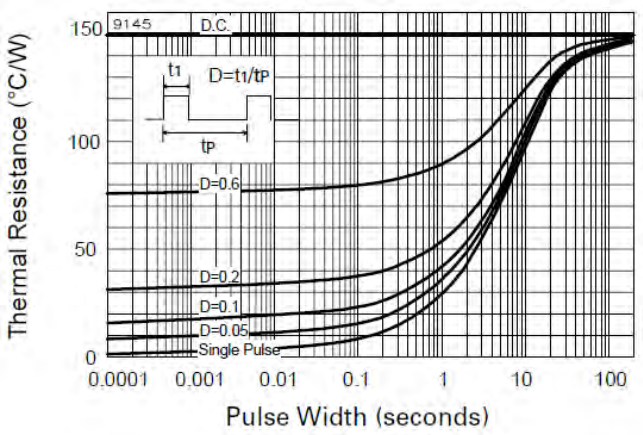
Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Power Dissipation		P_D	850	mW
Practical Power Dissipation	(Note 2)	P_{DP}	1.13	W
Thermal Resistance, Junction to Ambient		$R_{\theta JA}$	150	°C/W
Thermal Resistance, Junction to Ambient	(Note 2)	$R_{\theta JA}$	111	°C/W
Thermal Resistance, Junction to Leads	(Note 3)	$R_{\theta JL}$	50	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Notes: 2. For a device mounted on 25mm X 25mm X 1.6mm FR-4 PCB with high coverage of single sided 1oz copper, in still air condition.
3. Thermal resistance from junction to solder-point



Derating curve



Maximum transient thermal impedance

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Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 4)						
Drain-Source Breakdown Voltage	BV_{DSS}	60	-	-	V	V_{GS} = 0V, I_D = 1mA
Zero Gate Voltage Drain Current T_J = 25°C	I_{DSS}	-	-	1 20	µA	V_{DS} = 60V, V_{GS} = 0V V_{DS} = 48V, V_{GS} = 0V, T_A = 125°C
Gate-Source Leakage	I_{GSS}	-	-	±100	nA	V_{GS} = ±20V, V_{DS} = 0V
On-State Drain Current	$I_{D(on)}$	12	-	-	A	V_{GS} = 10V, V_{DS} = 10V
ON CHARACTERISTICS (Note 4)						
Gate Threshold Voltage	$V_{GS(th)}$	1.3	-	3	V	V_{DS} = V_{GS}, I_D = 1mA
Static Drain-Source On-Resistance	$R_{DS\ (on)}$	-	0.22 0.32	0.33 0.45	Ω	V_{GS} = 10V, I_D = 3A V_{GS} = 5V, I_D = 1.5A
Forward Transconductance	g_{fs}	700	-	-	mS	V_{DS} = 10V, I_D = 3A
DYNAMIC CHARACTERISTICS (Note 4)						
Input Capacitance	C_{iss}	-	-	350	pF	V_{DS} = 25V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	-	-	140	pF	
Reverse Transfer Capacitance	C_{rss}	-	-	30	pF	
Turn-On Delay Time (Note 5)	$t_{d(on)}$	-	-	8	ns	V_{DD} = 25V, I_D = 3A, V_{GEM} = 10V
Turn-On Rise Time (Note 5)	t_r	-	-	25	ns	
Turn-Off Delay Time (Note 5)	$t_{d(off)}$	-	-	30	ns	
Turn-Off Fall Time (Note 5)	t_f	-	-	16	ns	

Notes: 4. Measured under pulsed conditions. Width = 300µs. Duty cycle ≤ 2%
5. Switching times measured with 50Ω source impedance and <5ns rise time on a pulse generator

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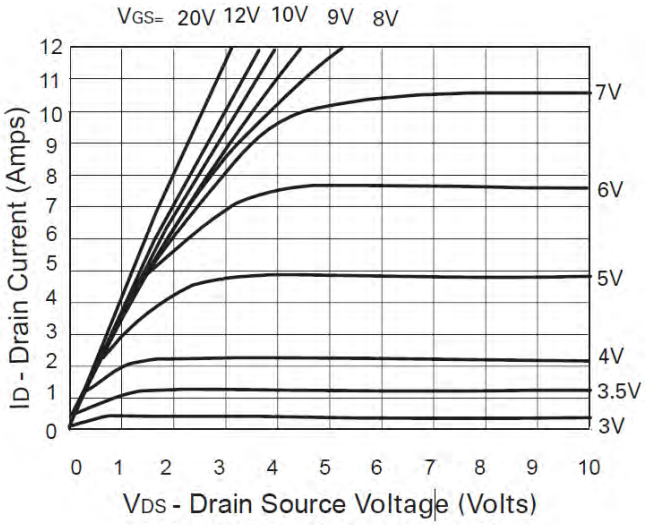
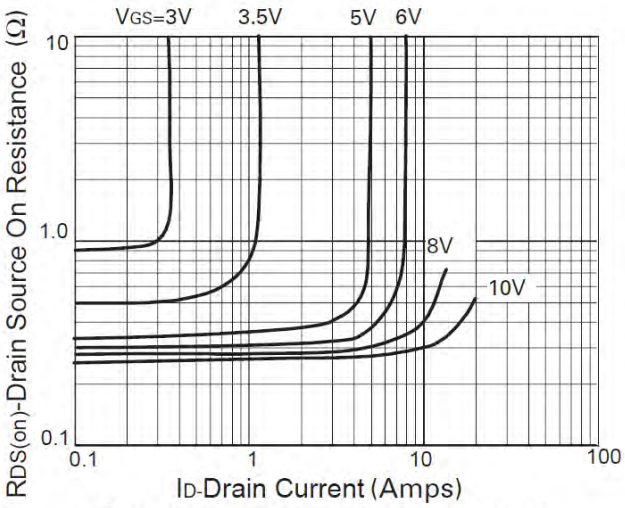
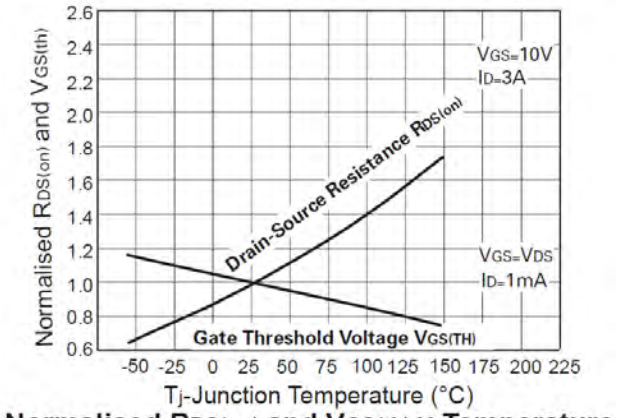
Electrical Characteristics



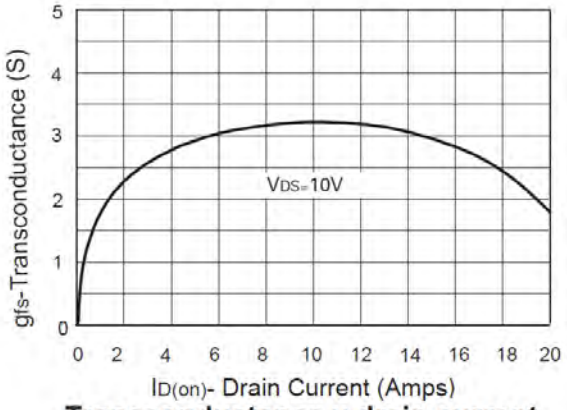
Saturation Characteristics



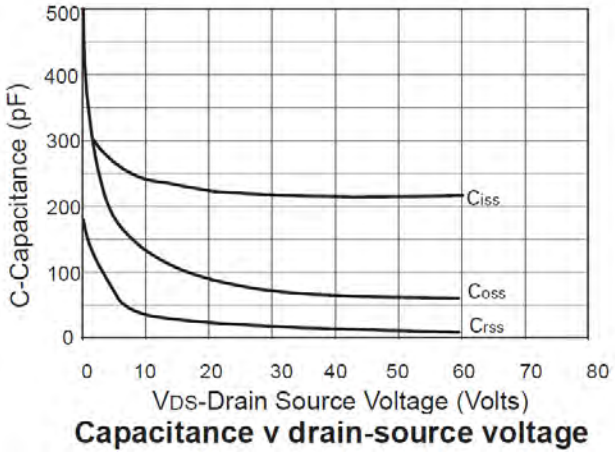
On-resistance v drain current



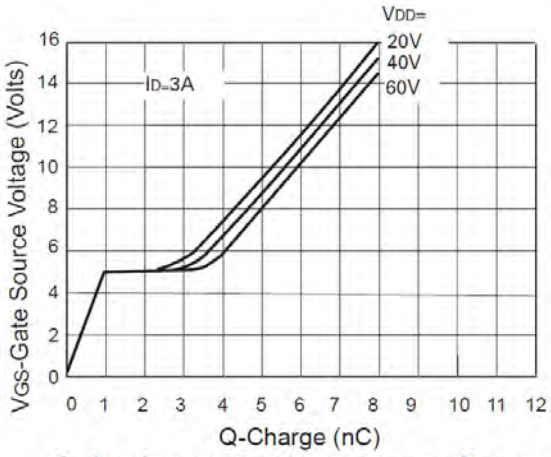
Normalised RDS(on) and VGS(th) v Temperature



Transconductance v drain current



Capacitance v drain-source voltage



Gate charge v gate-source voltage

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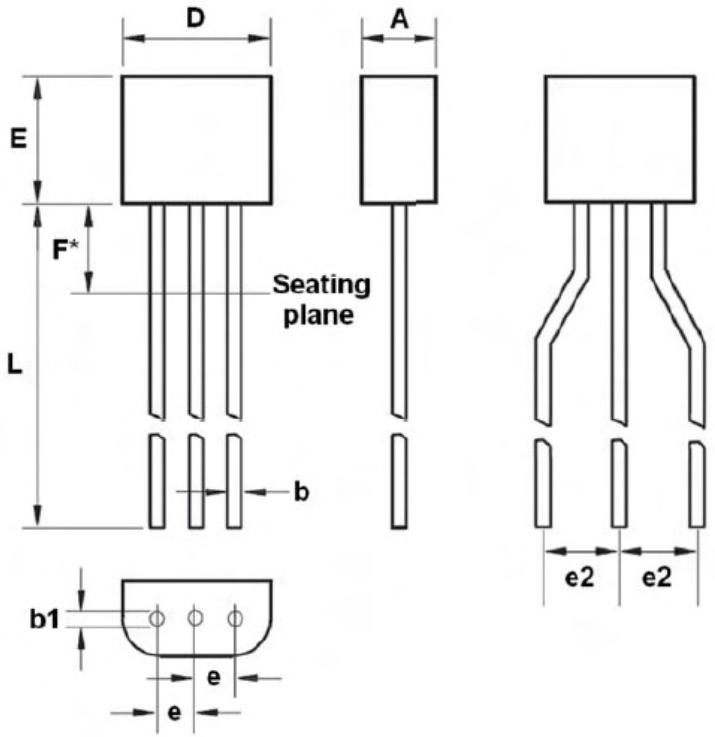
Package Outline Dimensions



DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.16	2.41	0.085	0.095
b	0.41	0.495	0.016	0.0195
b1	0.41	0.495	0.016	0.0195
D	4.37	4.77	0.172	0.188
E	3.61	4.01	0.142	0.158
e*	1.27 NOM		0.050 NOM	
e†	2.54 NOM		0.100 NOM	
F‡	—	2.50	—	0.098
L	13.00	13.97	0.512	0.550

NOTES:
* loose product only
† taped product only
‡ leads uncontrolled above seating plane

Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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