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

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V_{DSS}	-8	V
Gate-Source Voltage			V_{GSS}	-6	V
Continuous Drain Current (Note 5) V_{GS} = -4.5V	Steady State	T_A = +25°C T_A = +70°C	I_D	-10 -8	A
Continuous Drain Current (Note 6) V_{GS} = -4.5V	Steady State	T_A = +25°C T_A = +70°C	I_D	-7.4 -6.0	A
Pulsed Drain Current (Pulse Duration 10µs, Duty Cycle ≤1%)			I_{DM}	-50	A
Continuous Source Pin Current (Note 6)			I_S	-2	A
Pulsed Source Pin Current (Pulse Duration 10µs, Duty Cycle ≤1%)			I_{SM}	-15	A
Continuous Gate Current			I_G	-0.5	A

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

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_D	0.89	W
Total Power Dissipation (Note 6)	P_D	1.57	W
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	142.1	°C/W
Thermal Resistance, Junction to Ambient (Note 6)	$R_{\theta JA}$	80.5	°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}	-8	—	—	V	V_{GS} = 0V, I_D = -250µA
Gate to Source Voltage	BV_{SGS}	6	—	—	V	V_{DS} = 0V, I_S = 250µA
Zero Gate Voltage Drain Current @T_C = +25°C	I_{DSS}	—	—	-1	µA	V_{DS} = -4.0V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	-100	nA	V_{GS} = -4.0V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	-0.4	-0.8	-1.1	V	V_{DS} = V_{GS}, I_D = -250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	8.2	10	mΩ	V_{GS} = -4.5V, I_D = -2A
			10	13		V_{GS} = -3.0V, I_D = -2A
			11	14		V_{GS} = -2.5V, I_D = -2A
Forward Transfer Admittance	$\|Y_{fs}\|$	—	16.8	—	S	V_{DS} = -4V, I_D = -2A
Diode Forward Voltage (Note 6)	V_{SD}	—	-0.7	-1	V	V_{GS} = 0V, I_S = -2A
Reverse Recovery Charge	Q_{RR}	—	6.3	—	nC	V_{DD} = -5V, I_F = -2A, di/dt = 200A/µs
Reverse Recovery Time	t_{RR}	—	18.5	—	ns	
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	817	1,060	pF	V_{DS} = -4V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	—	595	770	pF	
Reverse Transfer Capacitance	C_{rss}	—	269	350	pF	
Series Gate Resistance	R_G	—	1.9	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1.0MHz
Total Gate Charge	Q_g	—	8.1	10.5	nC	V_{GS} = -4.5V, V_{DS} = -4V, I_D = -2A
Gate-Source Charge	Q_{gs}	—	0.9	—	nC	
Gate-Drain Charge	Q_{gd}	—	1.8	—	nC	
Turn-On Delay Time	$t_{D(ON)}$	—	6.2	10	ns	V_{DD} = -4V, V_{GS} = -4.5V, I_{DS} = -2A, R_G = 10Ω
Turn-On Rise Time	t_R	—	22.6	—	ns	
Turn-Off Delay Time	$t_{D(OFF)}$	—	30.1	48	ns	
Turn-Off Fall Time	t_F	—	22.7	—	ns	

Notes: 5. Device mounted on FR-4 PCB with minimum recommended pad layout.
6. Device mounted on FR-4 material with 1-inch^2 (6.45cm^2), 2oz (0.071mm thick) Cu.
7. Short duration pulse test used to minimize self-heating effect.
8. Guaranteed by design. Not subject to production testing.

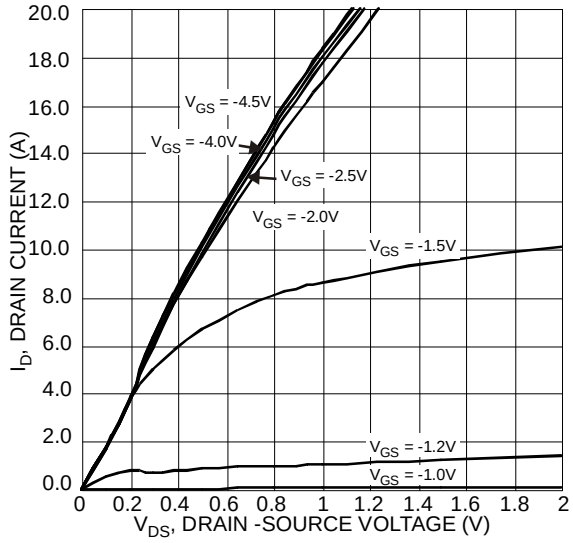


Figure 1 Typical Output Characteristics

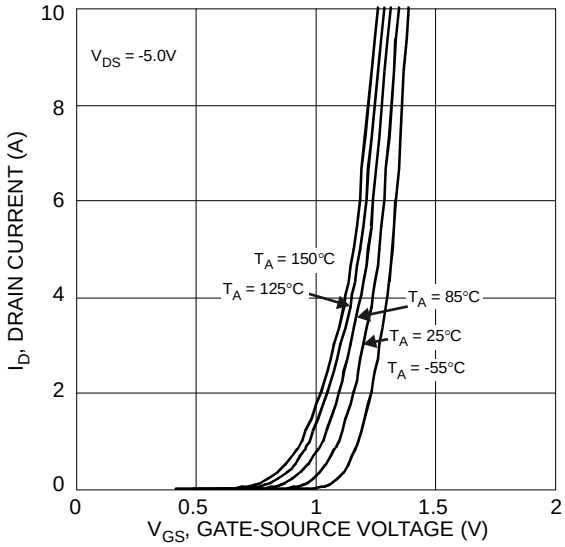


Figure 2 Typical Transfer Characteristics

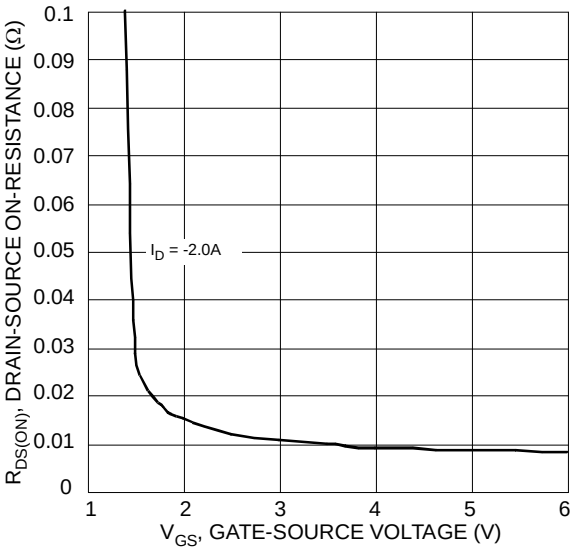


Figure 3 Typical Transfer Characteristic

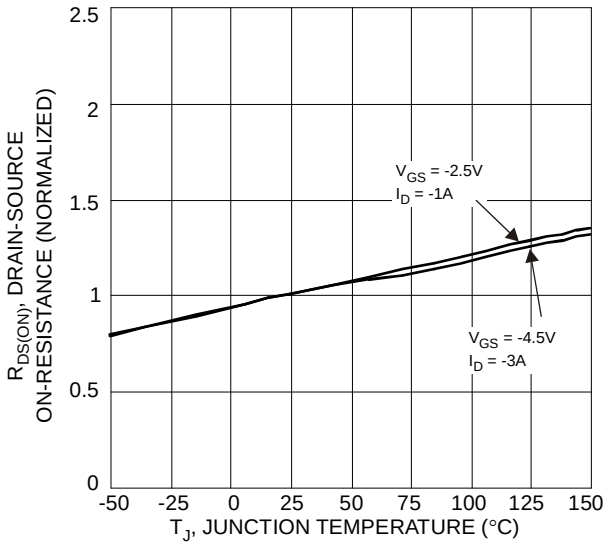


Figure 4 On-Resistance Variation with Temperature

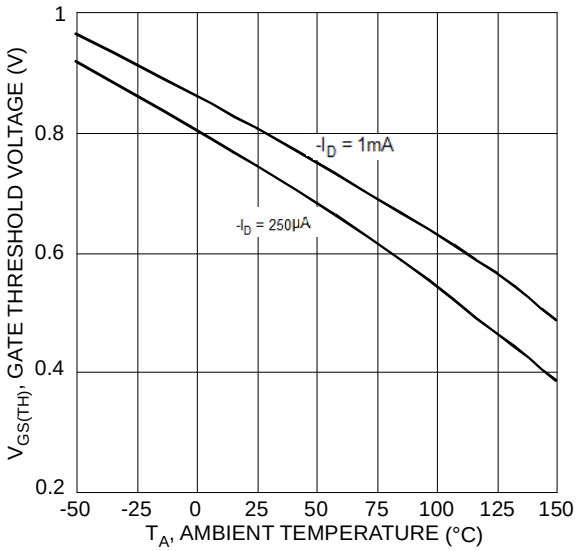


Figure 5 Gate Threshold Variation vs. Ambient Temperature

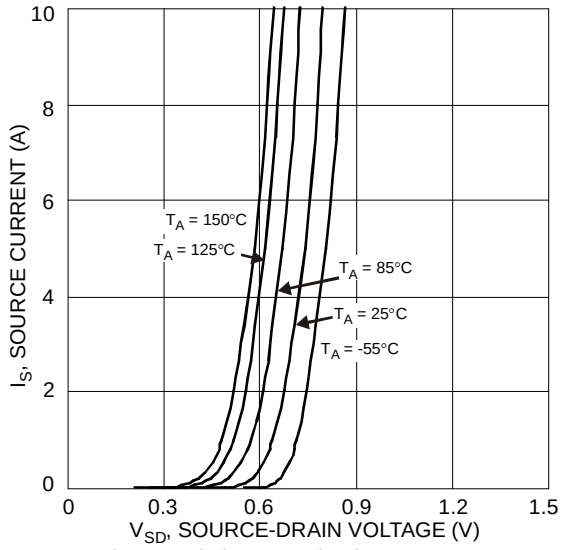


Figure 6 Diode Forward Voltage vs. Current

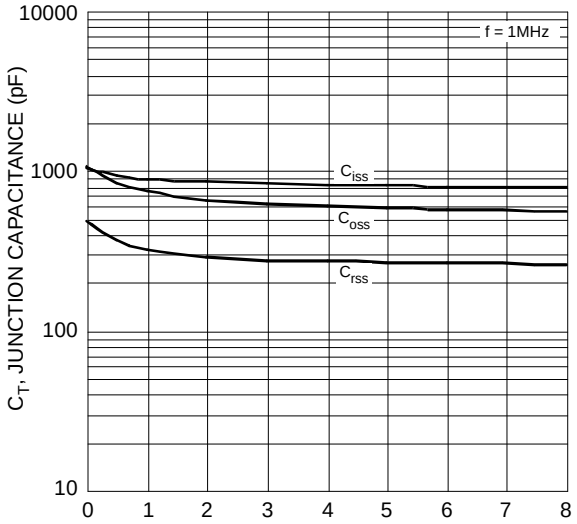


Figure 7 Typical Junction Capacitance

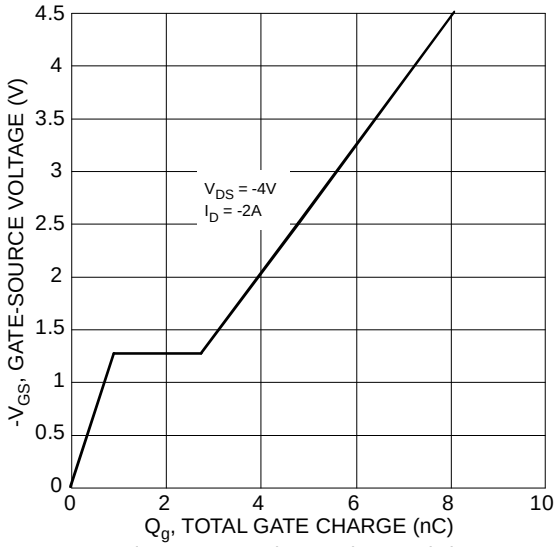


Figure 8 Gate-Charge Characteristics

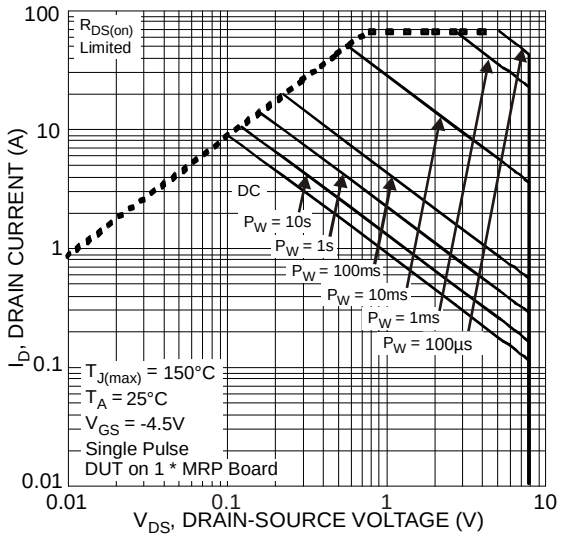


Figure 9 SOA, Safe Operation Area

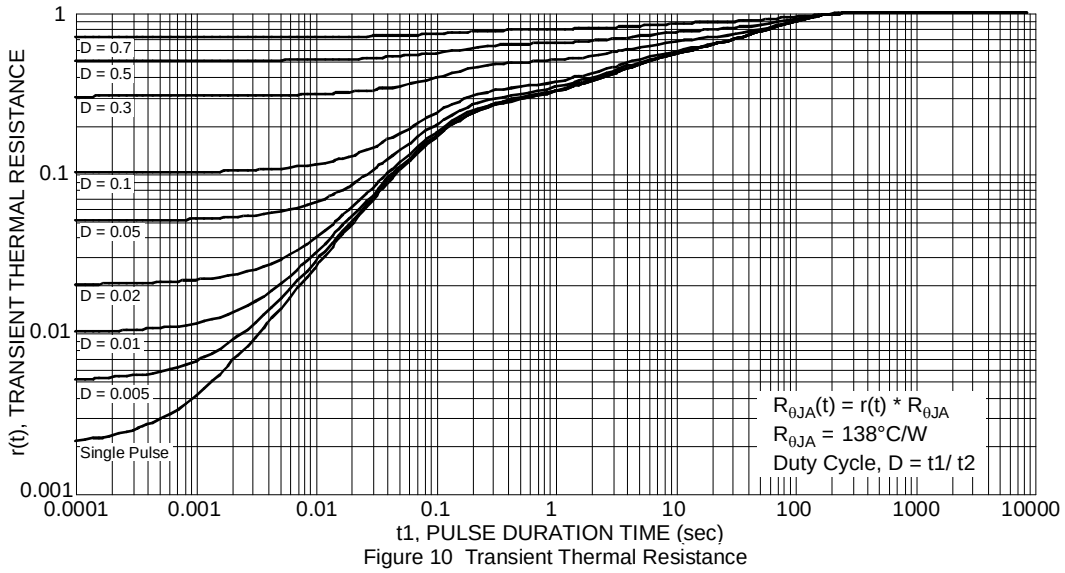
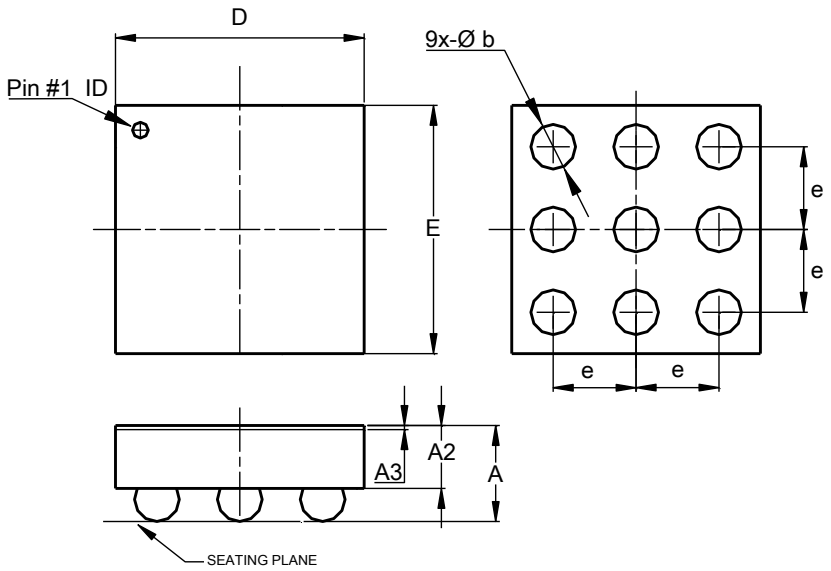


Figure 10 Transient Thermal Resistance

Package Outline Dimensions

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

U-WLB1515-9 (Type B)

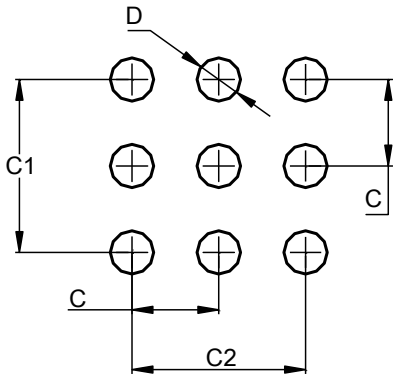


U-WLB1515-9 (Type B)			
Dim	**Min**	**Max**	**Typ**
A	--	0.60	--
A2	--	0.36	0.36
A3	0.020	0.030	0.025
b	0.22	0.32	0.27
D	1.47	1.50	1.49
E	1.47	1.50	1.49
e	--	--	0.50
All Dimensions in mm			

Suggested Pad Layout

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

U-WLB1515-9 (Type B)



Dimensions	Value (in mm)
C	0.50
C1	1.00
C2	1.00
D	0.25

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