

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}	-6	V
Continuous Drain Current (Note 5) V _{GS} = -4.5V	I _D	-4.6	A
Continuous Drain Current (Note 5) V _{GS} = -2.5V	I _D	-3.7	A
Pulsed Drain Current (Note 6)	I _{DM}	-16	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P _D	0.75	W
Thermal Resistance, Junction to Ambient @T _A = +25°C (Note 7)	R _{θJA}	165	°C/W
Power Dissipation (Note 5)	P _D	1.4	W
Thermal Resistance, Junction to Ambient @T _A = +25°C (Note 5)	R _{θJA}	87	°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 8)						
Drain-Source Breakdown Voltage	BV _{DSS}	-20	—	—	V	V _{GS} = 0V, I _D = -250μA
Zero Gate Voltage Drain Current T _J = +25°C	I _{DSS}	—	—	-1	μA	V _{DS} = -16V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	-100	nA	V _{GS} = -6V, V _{DS} = 0V
ON CHARACTERISTICS (Note 8)						
Gate Threshold Voltage	V _{GS(TH)}	-0.4	-0.8	-1.2	V	V _{DS} = V _{GS} , I _D = -250μA
Static Drain-Source On-Resistance	R _{DS(ON)}	—	37	45	mΩ	V _{GS} = -4.5V, I _D = -1A
		—	49	65		V _{GS} = -2.5V, I _D = -1A
Forward Transfer Admittance	Y _{FS}	—	6.6	-	S	V _{DS} = -10V, I _D = -1A
Diode Forward Voltage	V _{SD}	—	-0.7	-1.0	V	V _{GS} = 0V, I _S = -1A
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C _{iss}	—	218	—	pF	V _{DS} = -10V, V _{GS} = 0V, f = 1.0MHz
Output Capacitance	C _{oss}	—	148	—		
Reverse Transfer Capacitance	C _{rss}	—	11	—		
Series Gate Resistance	R _g	—	20	—	Ω	f = 1MHz, V _{GS} = 0V, V _{DS} = 0V
Series Clamp Resistance	R _C	—	5,000	—		
Total Gate Charge	Q _g	—	2.5	—	nC	V _{GS} = -4.5V, V _{DS} = -10V, I _D = -1A
Gate-Source Charge	Q _{gs}	—	0.4	—		
Gate-Drain Charge	Q _{gd}	—	0.4	—		
Gate Charge at V _{TH}	Q _{g(TH)}	—	0.2	—		
Turn-On Delay Time	t _{D(ON)}	—	0.6	—	μs	V _{DS} = -10V, V _{GS} = -2.5V, R _G = 10Ω, I _D = -1A
Turn-On Rise Time	t _R	—	0.8	—		
Turn-Off Delay Time	t _{D(OFF)}	—	1.4	—		
Turn-Off Fall Time	t _F	—	0.8	—		
Reverse Recovery Charge	Q _{RR}	—	2.2	—	nC	V _{DD} = -10V, I _F = -1.0A, di/dt = 100A/μs
Reverse Recovery Time	t _{RR}	—	10	—	ns	

- Notes:
- Device mounted on FR-4 material with 1-inch² (6.45-cm²), 2-oz. (0.071-mm thick) Cu.
 - Repetitive rating, pulse width limited by junction temperature.
 - Device mounted on FR-4 PCB with minimum recommended pad layout, single sided.
 - Short duration pulse test used to minimize self-heating effect.
 - Guaranteed by design. Not subject to production testing.

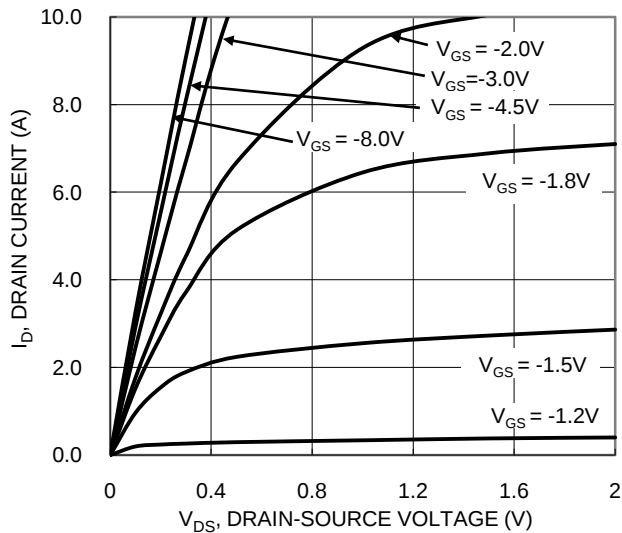


Figure 1. Typical Output Characteristic

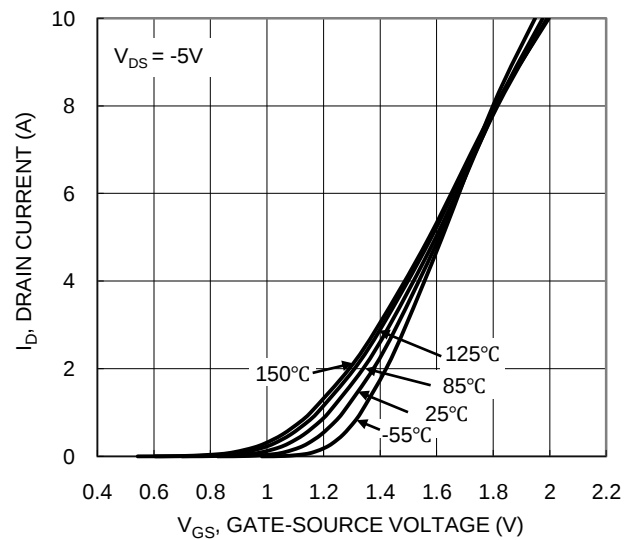


Figure 2. Typical Transfer Characteristic

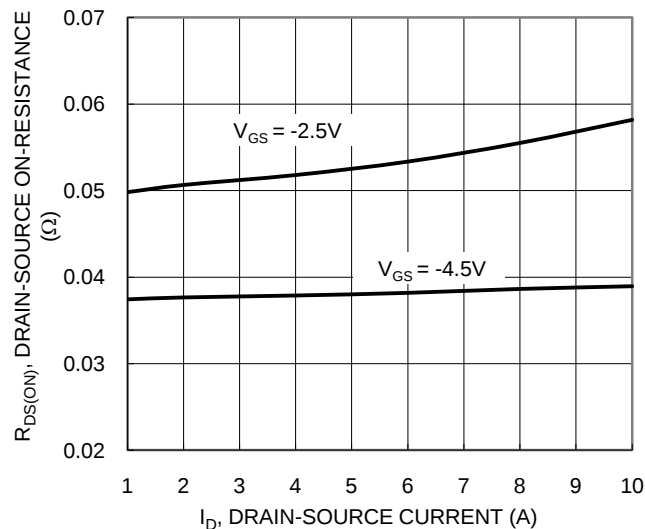


Figure 3. Typical On-Resistance vs. Drain Current and Gate Voltage

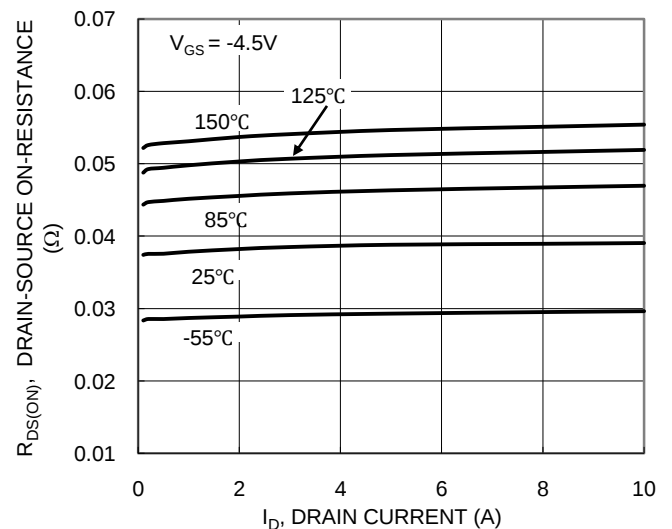


Figure 4. Typical On-Resistance vs. Drain Current and Junction Temperature

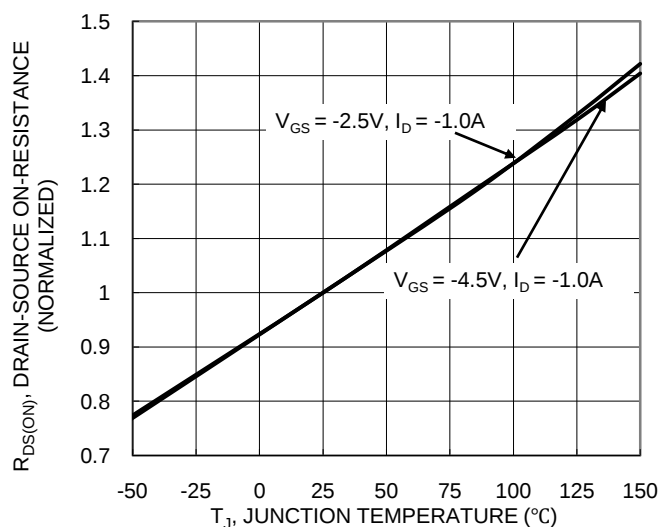


Figure 5. On-Resistance Variation with Junction Temperature

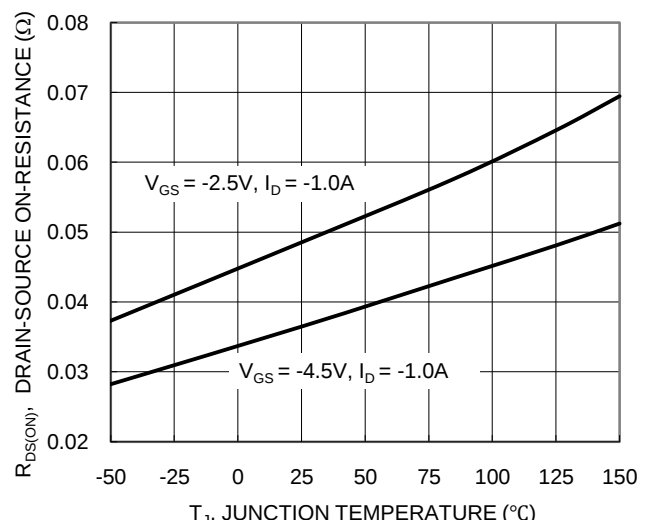
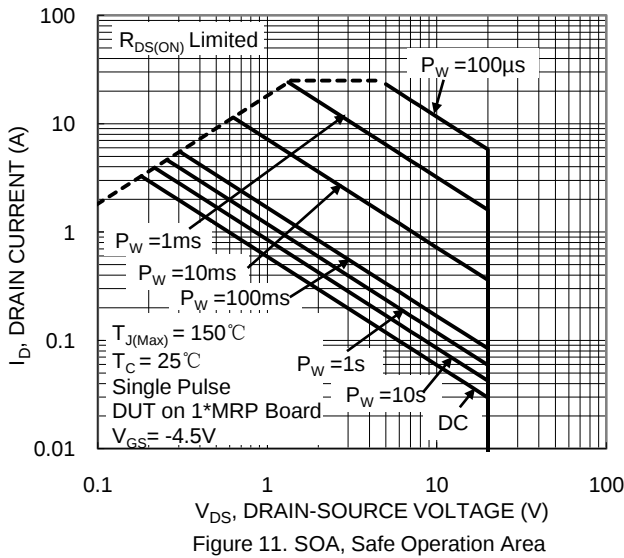
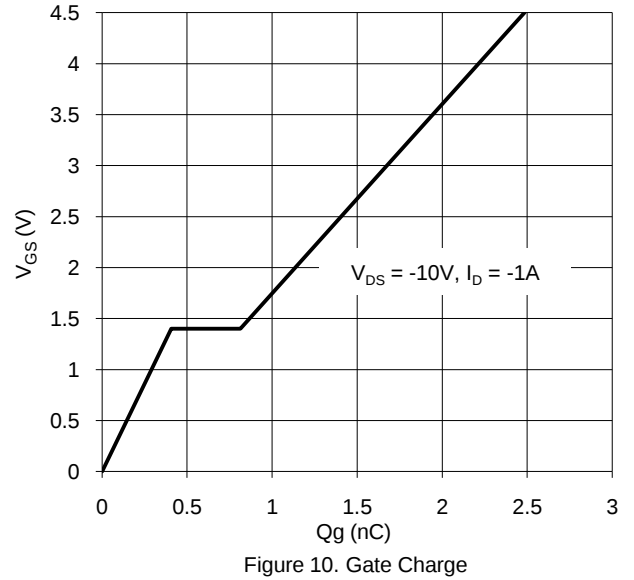
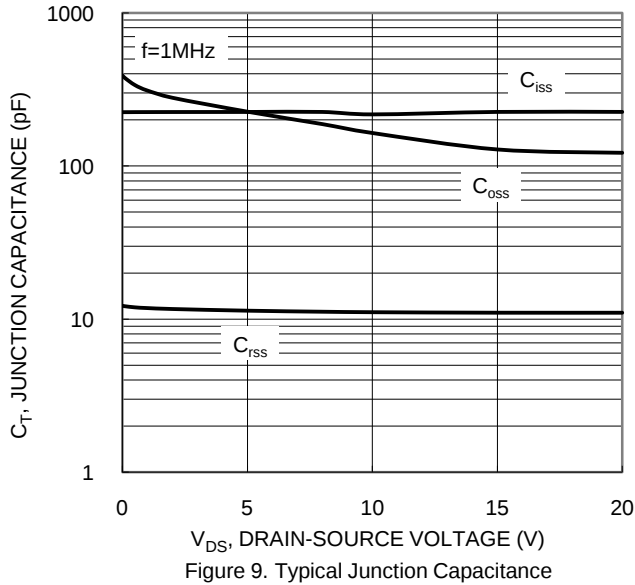
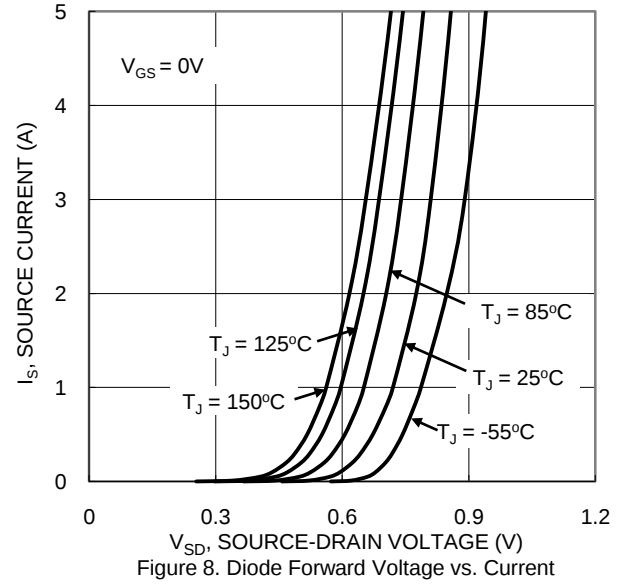
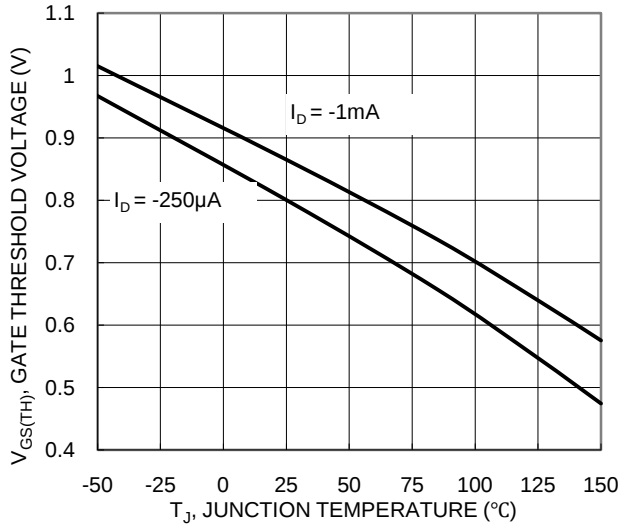


Figure 6. On-Resistance Variation with Junction Temperature



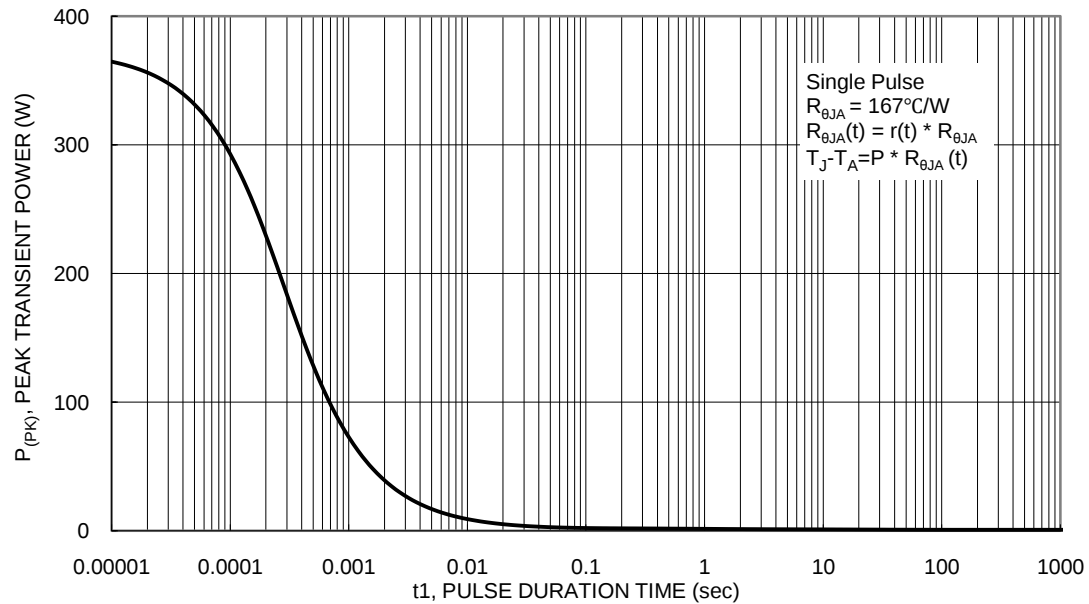


Figure 12. Single Pulse Maximum Power Dissipation

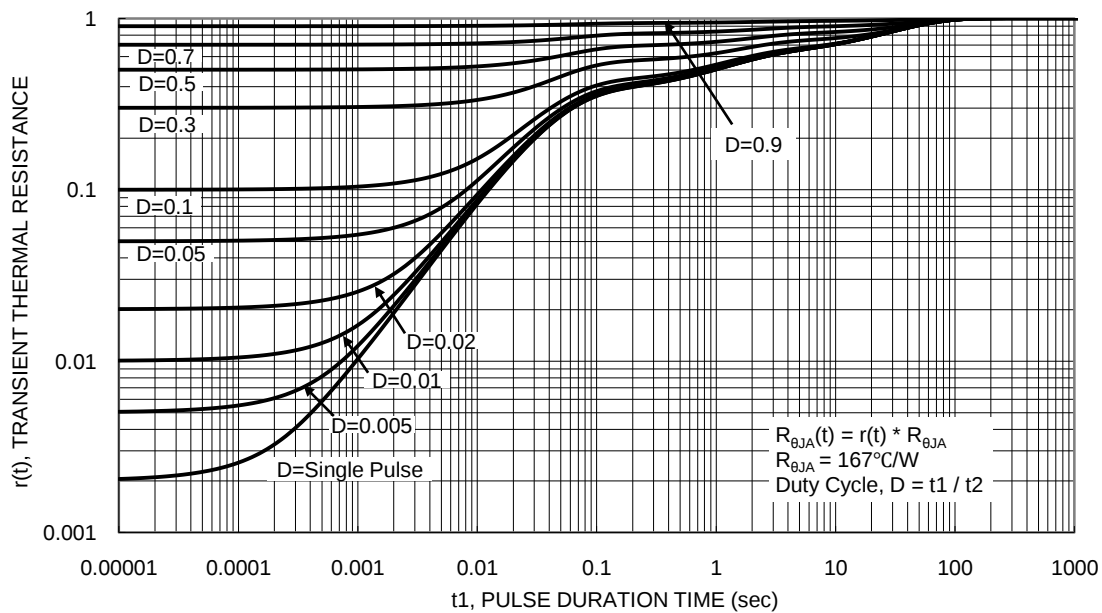
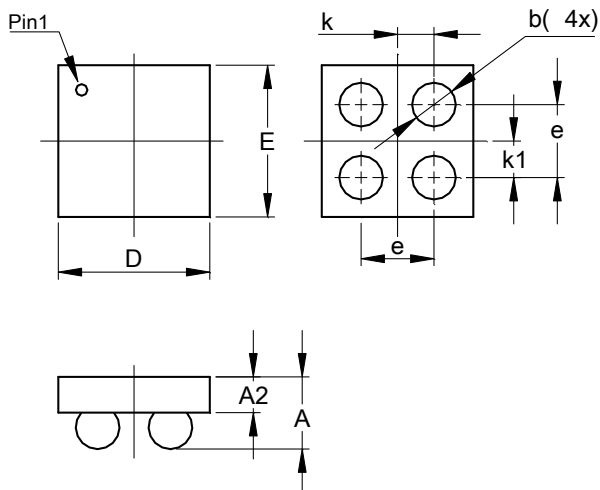


Figure 13. Transient Thermal Resistance

Package Outline Dimensions

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

U-WLB1010-4 (Type C)

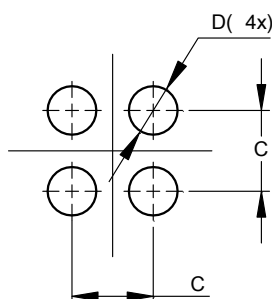


U-WLB1010-4 (Type C)			
Dim	Min	Max	Typ
A	--	0.62	--
A2	--	--	0.38
b	0.25	0.35	0.30
D	0.92	1.00	0.96
E	0.92	1.00	0.96
e	--	--	0.50
k	--	--	0.25
k1	--	--	0.25
All Dimensions in mm			

Suggested Pad Layout

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

U-WLB1010-4 (Type C)



Dimensions	Value (in mm)
C	0.500
D	0.300

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