Marking Information

Site 1:

K64 = Product Type Marking Code
K63 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: H = 2020)
M = Month (ex: 9 = September)

Date Code Key

Year	2014	…	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Code	B	…	H	I	J	K	L	M	N	O	P	R

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Site 2:

K64 = Product Type Marking Code
K63 = Product Type Marking Code
YWX = Date Code Marking
Y = Year (ex: 0 = 2020)
W = Week (ex: a = week 27; z represents week 52 and 53)
X = Internal Code (ex: U = Monday)

Date Code Key

Year	2014	…	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Code	4	…	0	1	2	3	4	5	6	7	8	9

Week	1-26	27-52	53
Code	A-Z	a-z	z

Internal Code	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Code	T	U	V	W	X	Y	Z

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 (Note 5) V_{GS} = 4V	T_A = +25°C T_A = +70°C	I_D	400 310	mA
Pulsed Drain Current (Note 6)		I_{DM}	1	A

Thermal Characteristics

Characteristic	Symbol	Max	Unit
Power Dissipation (Note 5)	P_D	0.5	W
Thermal Resistance, Junction to Ambient @T_A = +25°C (Note 5)	$R_{\theta JA}$	237	°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}	60	—	—	V	V_{GS} = 0V, I_D = 250µA
Zero Gate Voltage Drain Current T_J = +25°C	I_{DSS}	—	—	1	µA	V_{DS} = 60V, V_{GS} = 0V
Gate-Source Leakage	I_{GSS}	—	—	±100	nA	V_{GS} = ±5V, V_{DS} = 0V
		—	—	±500	nA	V_{GS} = ±10V, V_{DS} = 0V
		—	—	±2	µA	V_{GS} = ±15V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(TH)}$	0.6	—	1	V	V_{DS} = V_{GS}, I_D = 250µA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	0.8	2	Ω	V_{GS} = 4V, I_D = 100mA
		—	1	2.5		V_{GS} = 2.5V, I_D = 50mA
		—	1.4	3		V_{GS} = 1.8V, I_D = 50mA
		—	1.8	—		V_{GS} = 1.5V, I_D = 10mA
Forward Transfer Admittance	$\|Y_{fs}\|$	—	1.8	—	S	V_{DS} = 10V, I_D = 200mA
Diode Forward Voltage	V_{SD}	—	0.8	1.3	V	V_{GS} = 0V, I_S = 115mA
DYNAMIC CHARACTERISTICS (Note 8)						
Input Capacitance	C_{iss}	—	36	—	pF	V_{DS} = 25V, V_{GS} = 0V, f = 1MHz
Output Capacitance	C_{oss}	—	4.6	—		
Reverse Transfer Capacitance	C_{rss}	—	3.6	—		
Gate Resistance	R_g	—	59.8	—	Ω	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz
Total Gate Charge	Q_g	—	0.55	—	nC	V_{GS} = 4.5V, V_{DS} = 10V, I_D = 250mA
Gate-Source Charge	Q_{gs}	—	0.08	—		
Gate-Drain Charge	Q_{gd}	—	0.12	—		
Turn-On Delay Time	$t_{D(ON)}$	—	2.1	—	ns	V_{GS} = 10V, V_{DS} = 30V, R_L = 150Ω, R_G = 25Ω, I_D = 200mA
Turn-On Rise Time	t_R	—	2.8	—	ns	
Turn-Off Delay Time	$t_{D(OFF)}$	—	21	—	ns	
Turn-Off Fall Time	t_F	—	13.9	—	ns	

Notes: 5. Device mounted on FR-4 PCB with minimum recommended pad layout, single sided.
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.

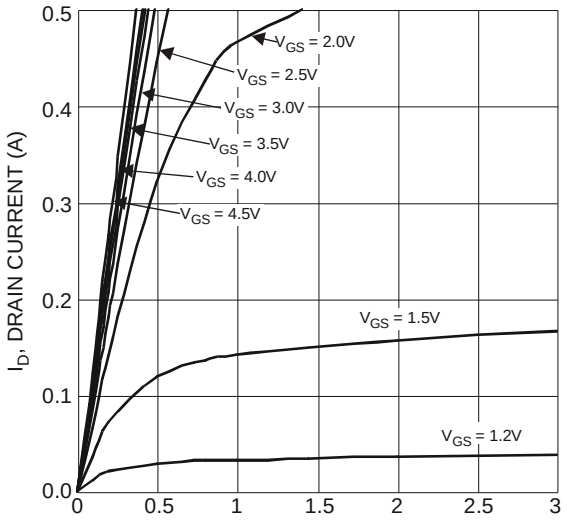

Figure 1 Typical Output Characteristics

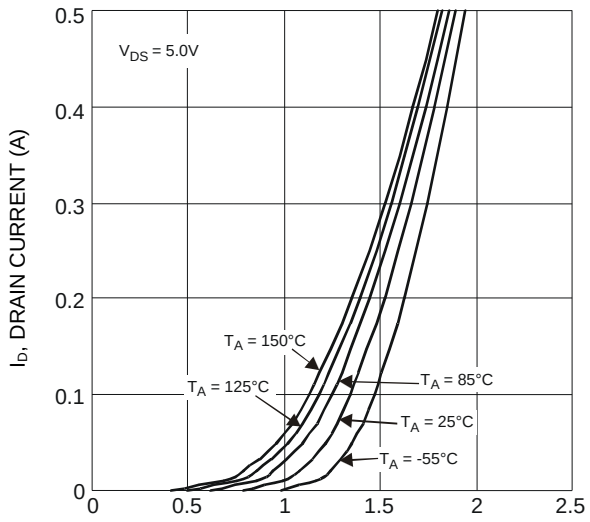

Figure 2 Typical Transfer Characteristics

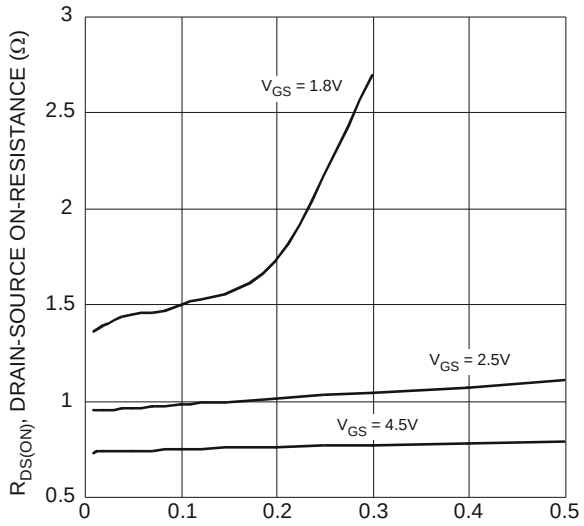

Figure 3 Typical On-Resistance vs. Drain Current and Gate Voltage

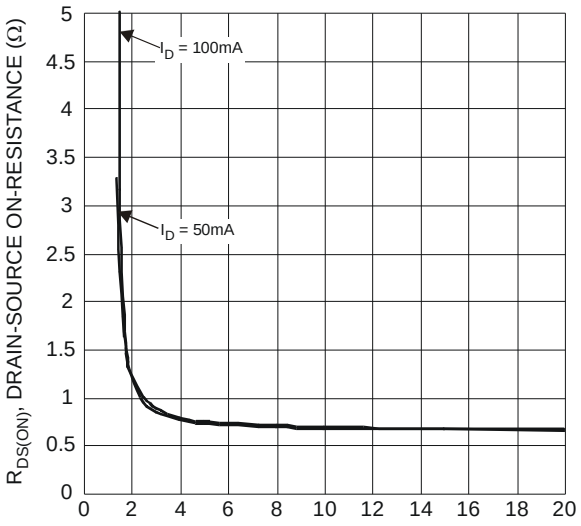

Figure 4 Typical Drain-Source On-Resistance vs. Gate-Source Voltage

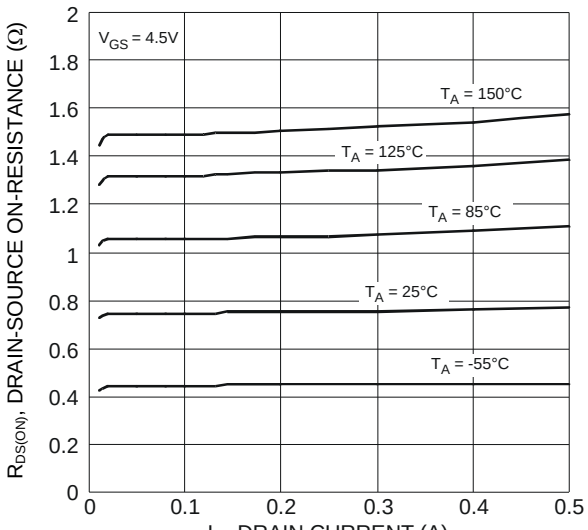

Figure 5 Typical On-Resistance vs. Drain Current and Temperature

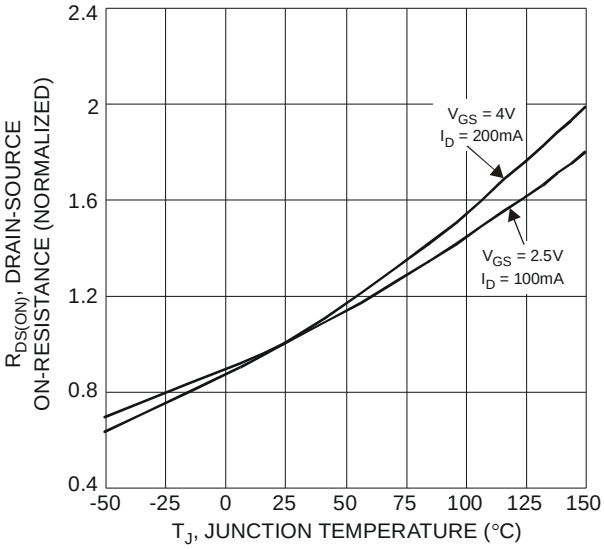

Figure 6 On-Resistance Variation with Temperature

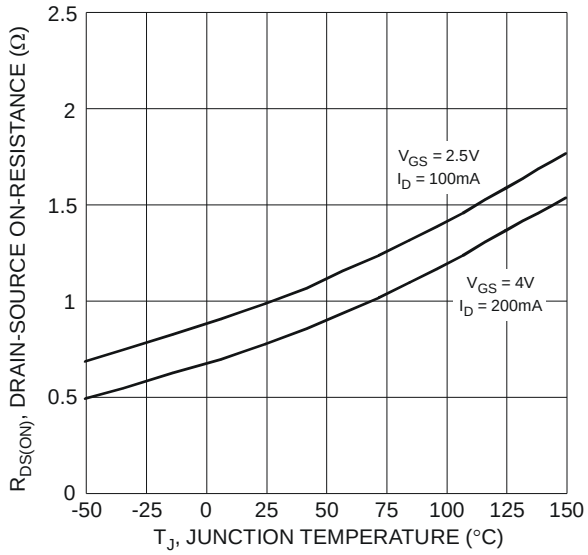

Figure 7 On-Resistance Variation with Temperature

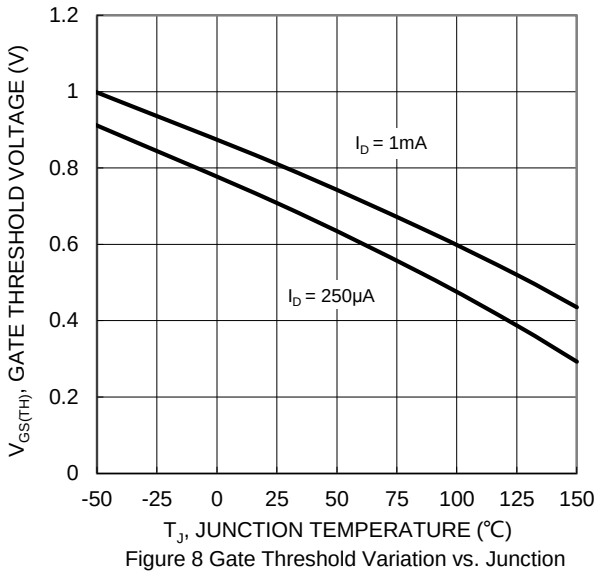

Figure 8 Gate Threshold Variation vs. Junction Temperature

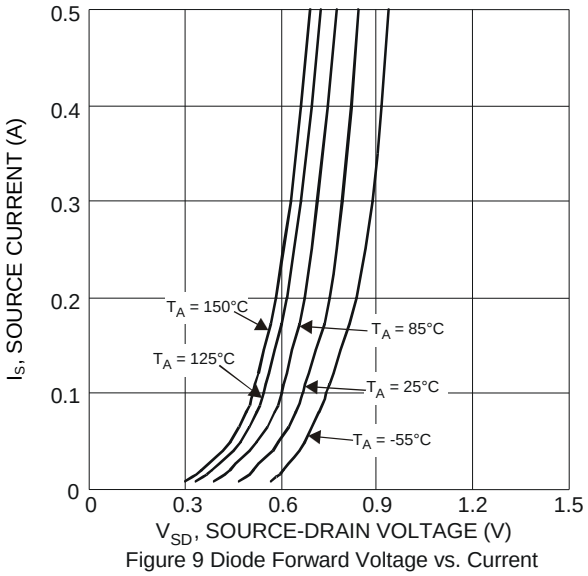

Figure 9 Diode Forward Voltage vs. Current

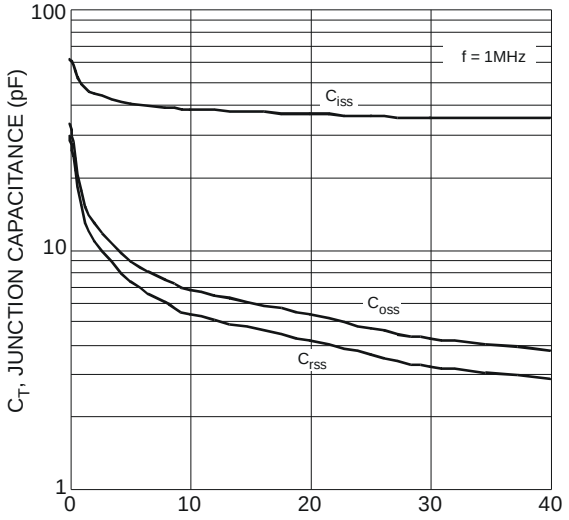

Figure 10 Typical Junction Capacitance

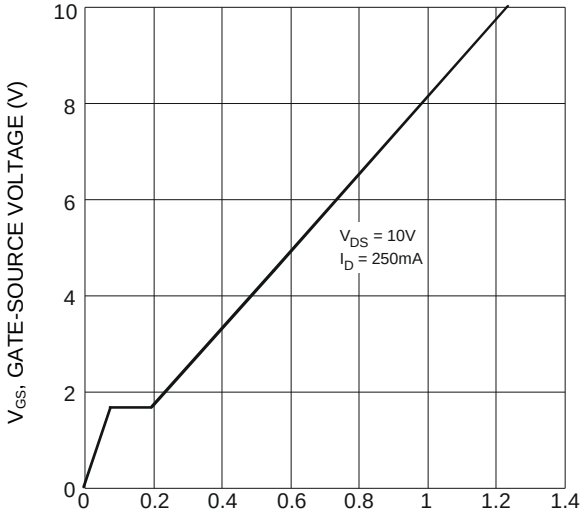

Figure 11 Gate Charge

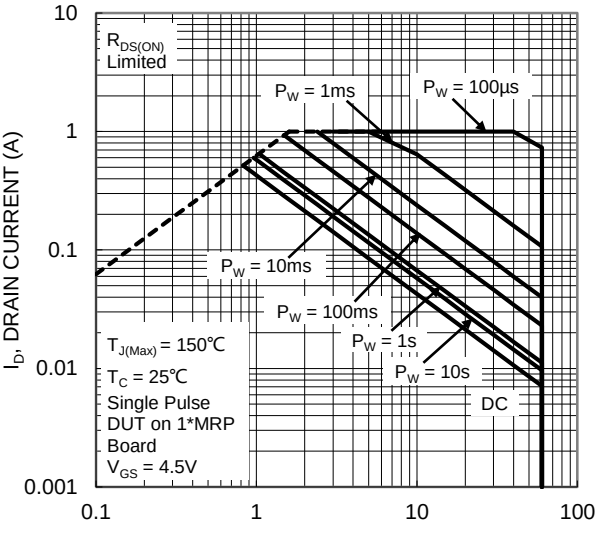

Figure 12 SOA, Safe Operation Area

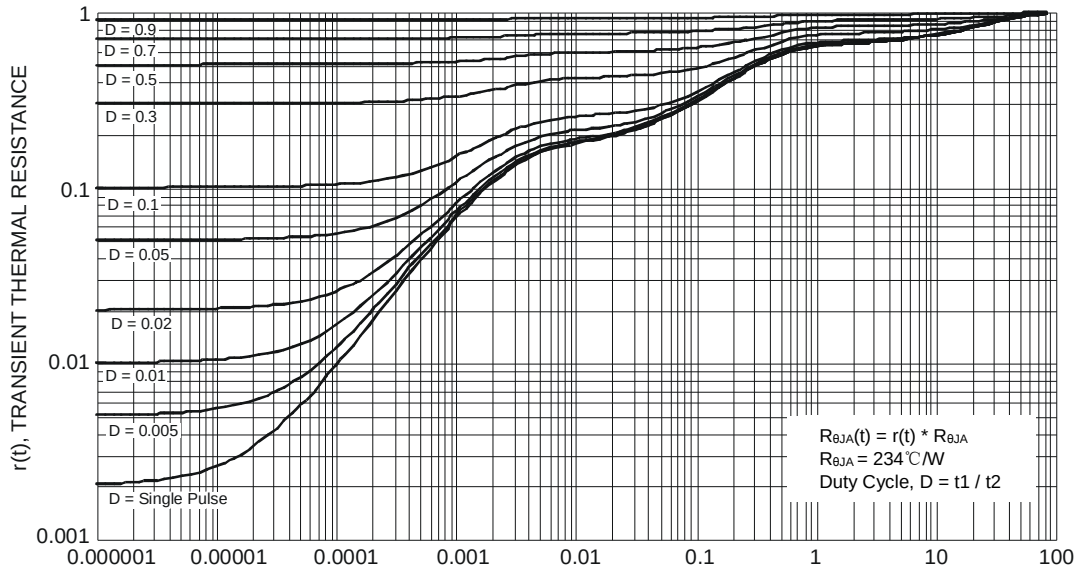

Figure 13 Transient Thermal Resistance

Package Outline Dimensions

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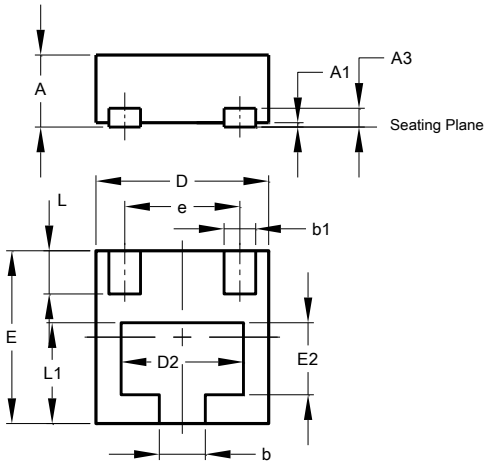
U-DFN1212-3 (Type C)

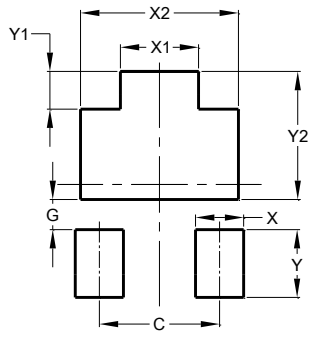


U-DFN1212-3 Type C			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0	0.05	0.02
A3	-	-	0.13
b	0.27	0.37	0.32
b1	0.17	0.27	0.22
D	1.15	1.25	1.20
D2	0.75	0.95	0.85
e	-	-	0.80
E	1.15	1.25	1.20
E2	0.40	0.60	0.50
L	0.25	0.35	0.30
L1	0.65	0.75	0.70
All Dimensions in mm			

Suggested Pad Layout

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

U-DFN1212-3 (Type C)



Dimensions	Value (in mm)
C	0.800
G	0.200
X	0.320
X1	0.520
X2	1.050
Y	0.450
Y1	0.250
Y2	0.850

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