



N-CHANNEL ENHANCEMENT MODE MOSFET

Features

- Low On-Resistance: R_{DS(ON)}
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- ESD Protected Gate
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

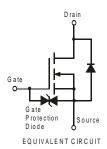
Mechanical Data

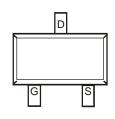
- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Annealed over Alloy 42
 Leadframe. Solderable per MIL-STD-202, Method 208 (§3)
- Terminal Connections: See Diagram
- Weight: 0.006 grams (Approximate)





Top View





Top View Pin Out Configuration

Ordering Information (Note 5)

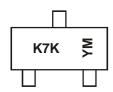
Part Number	Case	Packaging
DMN601WKQ-7	SOT323	3,000/Tape & Reel
DMN601WKQ-13	SOT323	10,000/Tape & Reel

SOT323

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to http://www.diodes.com/quality/product_compliance_definitions/.
- 5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



K7K = Product Type Marking Code YM = Date Code Marking Y = Year (ex: D = 2016) M = Month (ex: 9 = September)

Date Code Key

Year	2016	20	17	2018	2019	20	020	2021	2022	2	023	2024
Code	D		E	F	G		Н	I	J		K	L
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



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

Characteristic	Symbol	Value	Units	
Drain-Source Voltage	V_{DSS}	60	V	
Gate-Source Voltage	V _{GSS}	±20	V	
Drain Current (Note 6)	Continuous Pulsed (Note 7)	I _D	300 800	mA

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

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 6)	P_{D}	200	mW
Thermal Resistance, Junction to Ambient	$R_{ heta JA}$	625	°C/W
Operating and Storage Temperature Range	$T_{J,}T_{STG}$	-65 to +150	°C

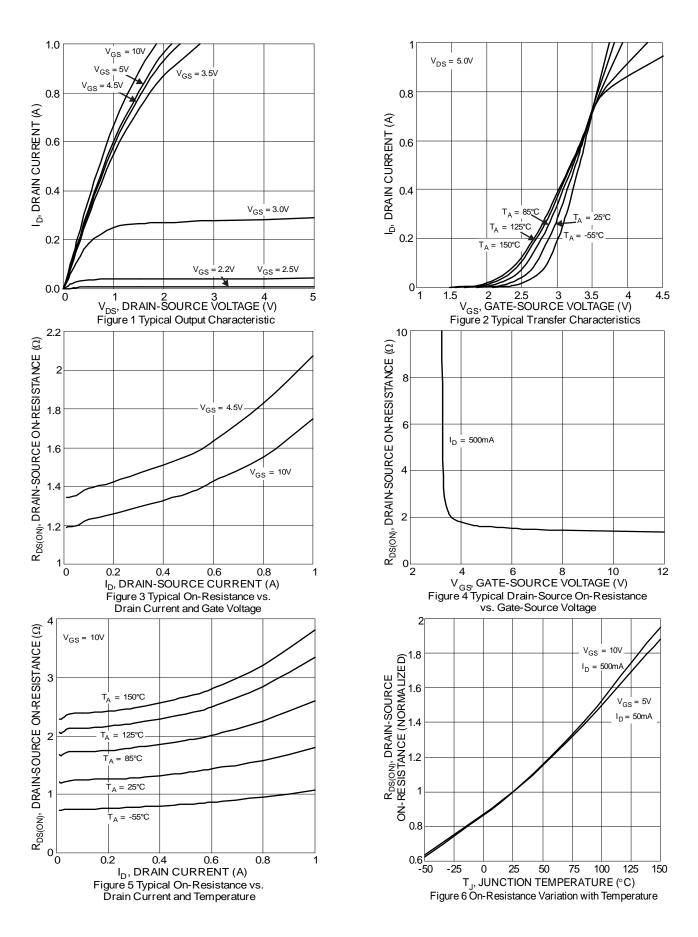
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)						
Drain-Source Breakdown Voltage	BV _{DSS}	60		_	V	$V_{GS} = 0V$, $I_D = 10\mu A$
Zero Gate Voltage Drain Current	I _{DSS}	_		1.0	μΑ	V _{DS} = 60V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	_		±10	μΑ	$V_{GS = \pm 20V}, V_{DS} = 0V$
ON CHARACTERISTICS (Note 8)						
Gate Threshold Voltage	V _{GS(TH)}	1.0	1.6	2.5	V	$V_{DS} = 10V, I_D = 1mA$
Static Drain-Source On-Resistance		_	_	2.0	Ω	$V_{GS} = 10V, I_D = 0.5A$
Static Dialii-Source Off-Resistance	R _{DS(ON)}	_	_	3.0		$V_{GS} = 4.5V$, $I_D = 0.2A$
Forward Transfer Admittance	Y _{FS}	80		_	ms	$V_{DS} = 10V, I_D = 0.2A$
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C _{ISS}	_		50	pF	
Output Capacitance	Coss	_		25	pF	V _{DS} = 25V, V _{GS} = 0V, f = 1.0MHz
Reverse Transfer Capacitance	C _{RSS}			5.0	pF	

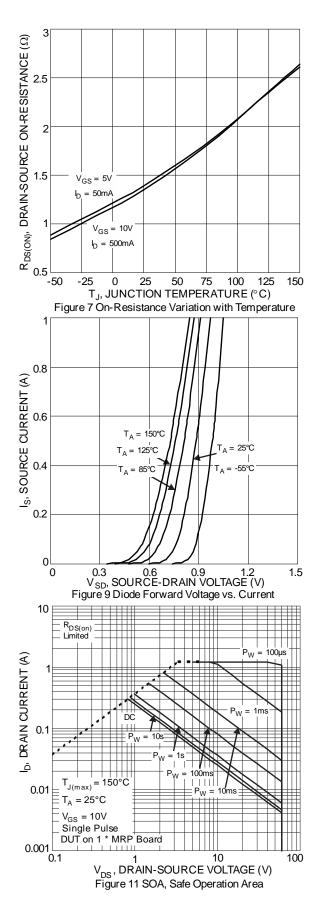
Notes:

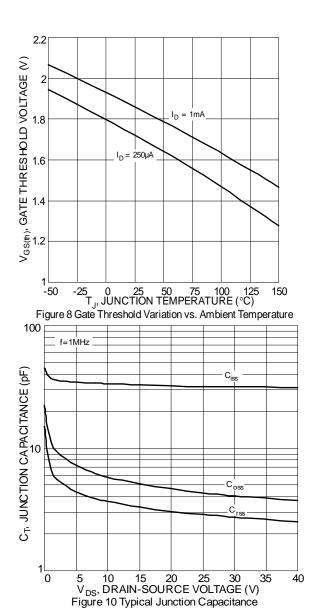
- 6. Device mounted on FR-4 PCB.
- Pulse width ≤10µS, Duty Cycle ≤1%.
 Short duration pulse test used to minimize self-heating effect.
 Guaranteed by design. Not subject to production testing.



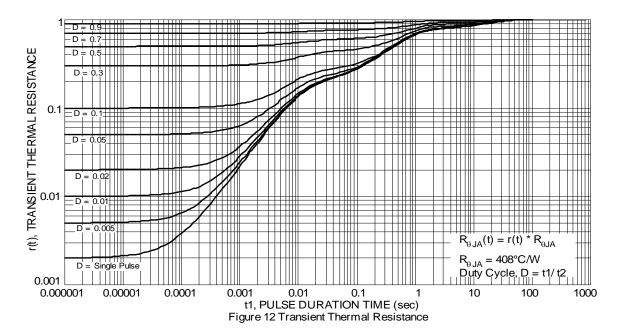










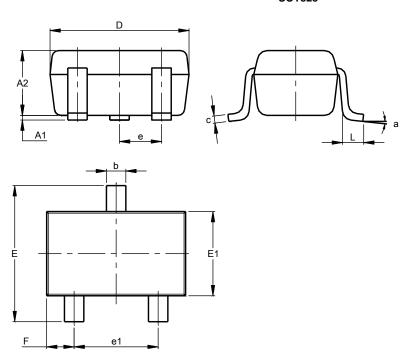




Package Outline Dimensions

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

SOT323

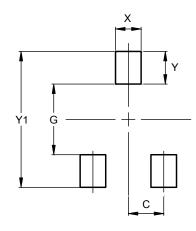


SOT323						
Dim	Min	Max	Тур			
A1	0.00	0.10	0.05			
A2	0.90	1.00	0.95			
b	0.25	0.40	0.30			
C	0.10	0.18	0.11			
D	1.80	2.20	2.15			
Е	2.00	2.20	2.10			
E1	1.15	1.35	1.30			
е	0.650 BSC					
e1	1.20	1.40	1.30			
F	0.375	0.475	0.425			
١	0.25	0.40	0.30			
а	8°					
All Dimensions in mm						

Suggested Pad Layout

 $Please see AP02001 \ at \ http://www.diodes.com/_files/datasheets/ap02001.pdf \ for \ the \ latest \ version.$

SOT323



Dimensions	Value (in mm)
С	0.650
G	1.300
X	0.470
Y	0.600
Y1	2 500



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