



DUAL N-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Features

- Dual N-Channel MOSFET
- Low On-Resistance
 - $100m\Omega$ @V_{GS} = 4.5V, I_D = 2.5A
 - $140m\Omega @V_{GS} = 2.5V, I_D = 1.5A$
 - $215m\Omega$ @V_{GS} = 1.8V, I_D = 1A
- Very Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- ESD Protected Gate to 2kV HBM
- Lead Free By Design/RoHS Compliant (Note 2)
- "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

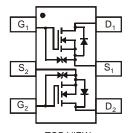




TOP VIEW

Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.015 grams (approximate)



TOP VIEW
Schematic and Pin Configuration

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units	
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage	V _{GSS}	±12	V	
Drain Current (Note 1)	$T_A = 25$ °C $T_A = 85$ °C	l lo	2.0 1.4	А
Pulsed Drain Current (Note 4)		I _{DM}	7.0	A

Thermal Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 1)	P_{D}	650	mW
Thermal Resistance, Junction to Ambient	$R_{ hetaJA}$	192	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes:

- 1. Device mounted on FR-4 PCB, or minimum recommended pad layout
- 2. No purposefully added lead.
- 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- 4. Pulse width ≤ 10µs, duty cycle ≤ 1%.

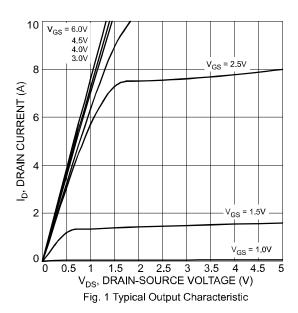


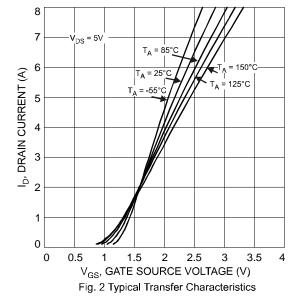
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition		
OFF CHARACTERISTICS (Note 5)								
Drain-Source Breakdown Voltage	BV _{DSS}	20	_		V	$V_{GS} = 0V, I_D = 10\mu A$		
Zero Gate Voltage Drain Current	IDSS		_	1	μА	$V_{DS} = 20V, V_{GS} = 0V$		
Gate-Source Leakage	IGSS		_	±10	μΑ	$V_{GS} = \pm 12V, V_{DS} = 0V$		
ON CHARACTERISTICS (Note 5)								
Gate Threshold Voltage	$V_{GS(th)}$	0.6	_	1.0	V	$V_{DS} = V_{CS}, I_D = 250 \mu A$		
			80 105 165	100	mΩ	$V_{GS} = 4.5V, I_D = 2.5A$		
Static Drain-Source On-Resistance	R _{DS} (ON)			140 215		$V_{GS} = 2.5V, I_D = 1.5A$		
						V _{GS} = 1.8V, I _D = 1.0A		
Forward Transfer Admittance	Y _{fs}		5	_	S	$V_{DS} = 5V, I_D = 2.4A$		
Diode Forward Voltage (Note 5)	V_{SD}		0.73	1.1	V	$V_{GS} = 0V, I_{S} = 1.05A$		
DYNAMIC CHARACTERISTICS				a.				
Input Capacitance	C _{iss}		188		pF	V 40V V 0V		
Output Capacitance	Coss		44	_	pF	$V_{DS} = 10V, V_{GS} = 0V$ f = 1.0MHz		
Reverse Transfer Capacitance	C _{rss}		30	_	pF	1 = 1:000112		
Turn-On Delay Time	t _{d(on)}		8	_				
Rise Time	t _r	_	3.8		ns	$V_{DD} = 10V$, $R_L = 10\Omega$		
Turn-Off Delay Time	t _{d(off)}	_	19.6		115	$I_D = 1A$, $V_{GEN} = 4.5V$, $R_G = 6\Omega$		
Fall Time	t _t	_	8.3					

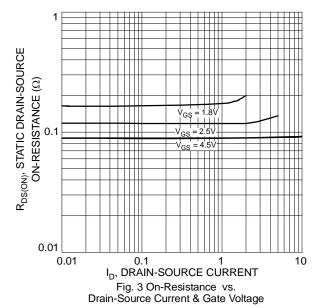
Notes:

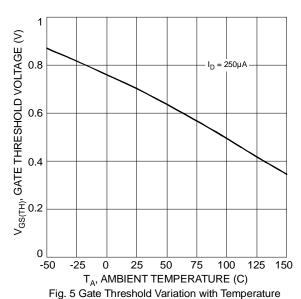
5. Short duration pulse test used to minimize self-heating effect.

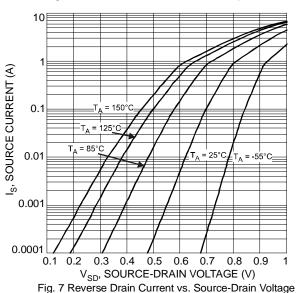












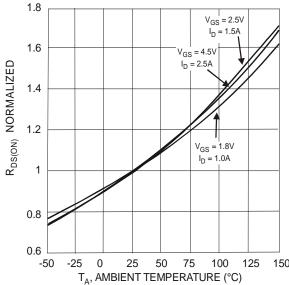
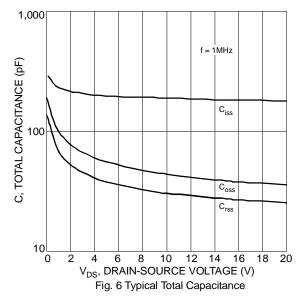


Fig. 4 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature



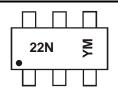


Ordering Information (Note 6)

Part Number	Case	Packaging
DMN2215UDM-7	SOT-26	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

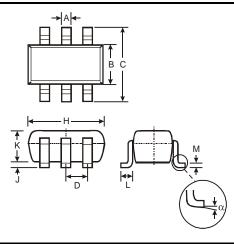


22N = Marking Code YM = Date Code Marking Y = Year ex: U = 2007 M = Month ex: 9 = September

Date Code Key

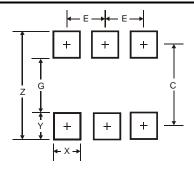
Date Code Itey												
Year	2007	20	80	2009	2010	20)11	2012	2013	20	14	2015
Code	U	\	/	W	X	`	Y	Z	Α		3	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

Package Outline Dimensions



SOT-26					
Dim	Min	Max	Тур		
Α	0.35	0.50	0.38		
В	1.50 1.70		1.60		
С	2.70	3.00	2.80		
D	_		0.95		
Н	2.90	3.10	3.00		
J	0.013	0.10	0.05		
K	1.00	1.30	1.10		
L	0.35	0.55	0.40		
M	0.10	0.20	0.15		
α	0°	8°	_		
All Dimensions in mm					

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.20
G	1.60
Х	0.55
Y	0.80
С	2.40
Е	0.95

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