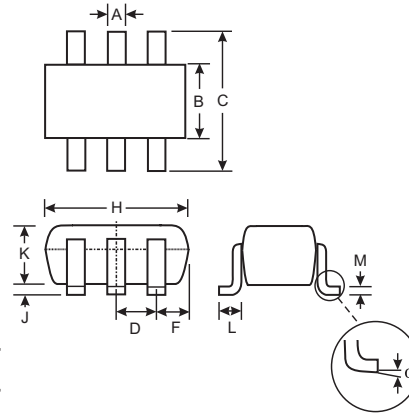


Features

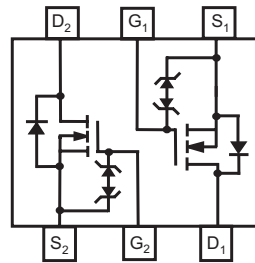
- Dual N-Channel MOSFET
- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Ultra-Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **ESD Protected up to 2KV**
- **"Green" Device (Note 4)**
- **Qualified to AEC-Q101 standards for High Reliability**



SOT-26			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
F	—	—	0.55
H	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			

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-020C
- Terminals Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking: See Page 2
- Ordering & Date Code Information: See Page 2
- Weight: 0.015 grams (approximate)



ESD protected up to 2KV

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic		Symbol	Value	Units
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	± 8	V
Drain Current (Note 1)	Steady State	I_D	$T_A = 25^\circ\text{C}$ $T_A = 85^\circ\text{C}$	mA
			540 390	
Pulsed Drain Current (Note 3)		I_{DM}	1.5	A
Total Power Dissipation (Note 1)		P_d	225	mW
Thermal Resistance, Junction to Ambient		$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range		T_j, T_{STG}	-65 to +150	$^\circ\text{C}$

- Note:
1. Device mounted on FR-4 PCB.
 2. No purposefully added lead.
 3. Pulse width $\leq 10\mu\text{s}$, Duty Cycle $\leq 1\%$.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	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	I_{DSS}	—	—	1	μA	$V_{DS} = 16V, V_{GS} = 0V$
Gate-Source Leakage	I_{GSS}	—	—	± 1	μA	$V_{GS} = \pm 4.5V, V_{DS} = 0V$
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	$V_{GS(th)}$	0.5	—	1.0	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
Static Drain-Source On-Resistance	$R_{DS(on)}$	—	0.4	0.55	Ω	$V_{GS} = 4.5V, I_D = 540mA$
		—	0.5	0.70		$V_{GS} = 2.5V, I_D = 500mA$
		—	0.7	0.9		$V_{GS} = 1.8V, I_D = 350mA$
Forward Transfer Admittance	$ Y_{fs} $	200	—	—	ms	$V_{DS} = 10V, I_D = 0.2A$
Diode Forward Voltage (Note 5)	V_{SD}	0.5	—	1.4	V	$V_{GS} = 0V, I_S = 115mA$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	—	150	pF	$V_{DS} = 16V, V_{GS} = 0V$ $f = 1.0MHz$
Output Capacitance	C_{oss}	—	—	25	pF	
Reverse Transfer Capacitance	C_{rss}	—	—	20	pF	

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

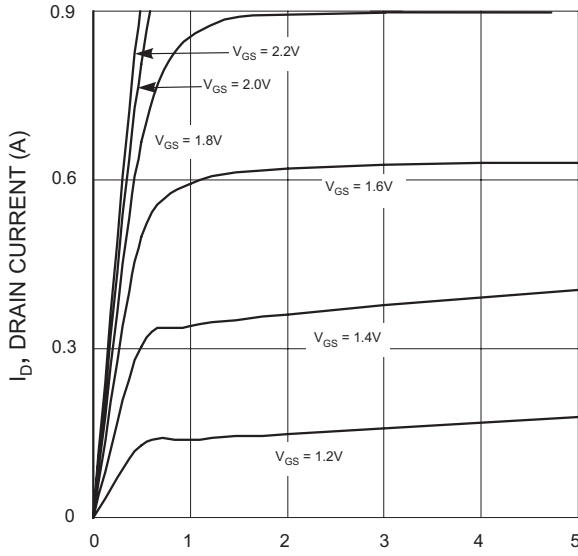


Fig. 1 Typical Output Characteristics

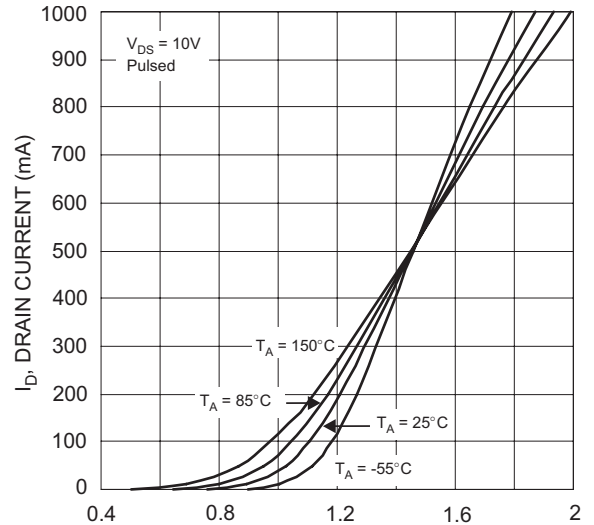


Fig. 2 Reverse Drain Current vs. Source-Drain Voltage

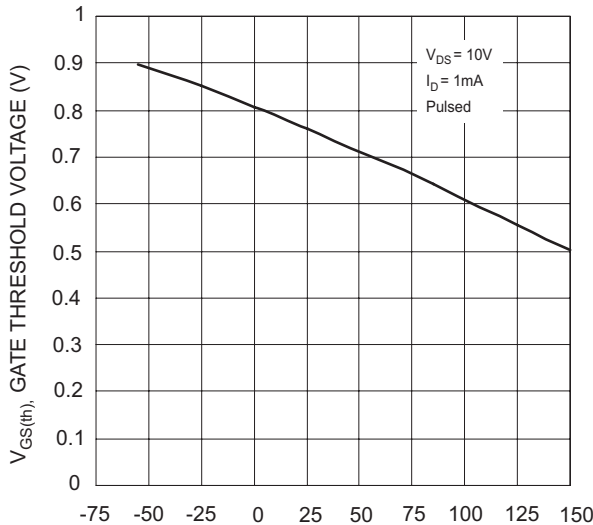


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

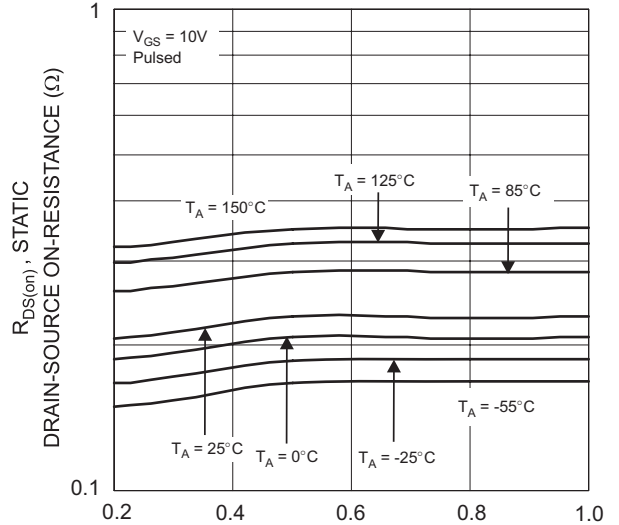


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

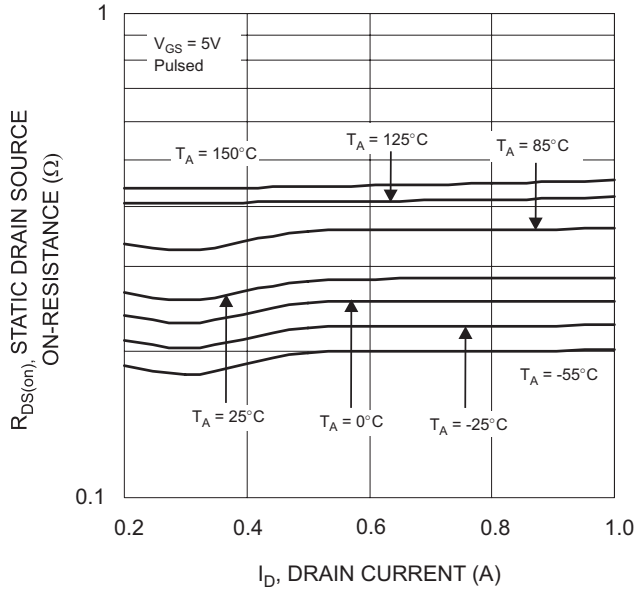


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

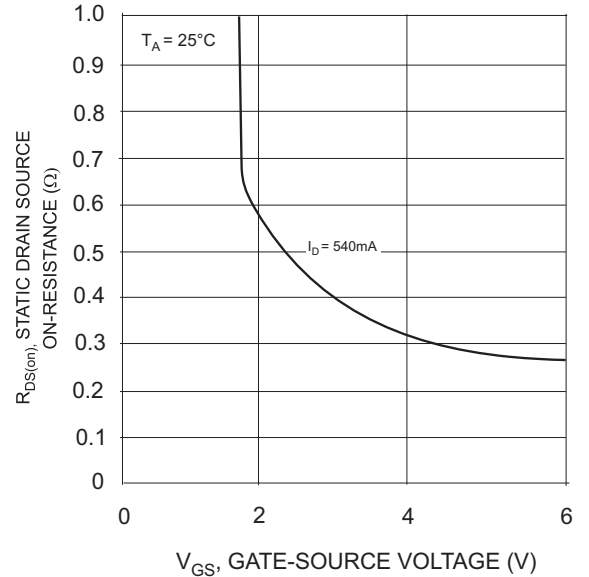


Fig. 6 Static Drain-Source, On-Resistance vs. Gate-Source Voltage

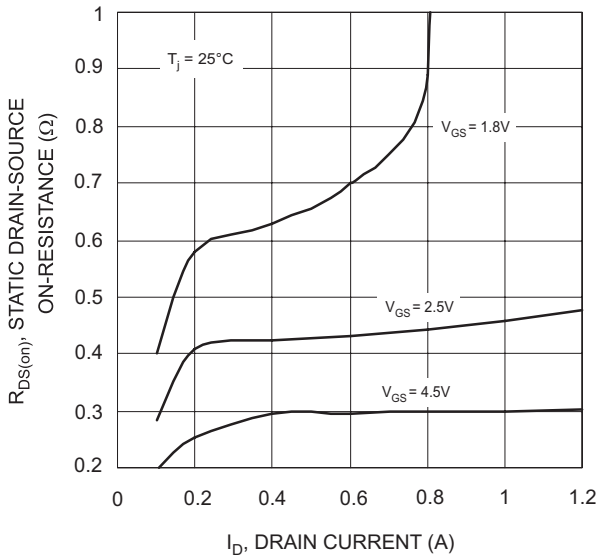


Fig. 7 On-Resistance vs. Drain Current and Gate Voltage

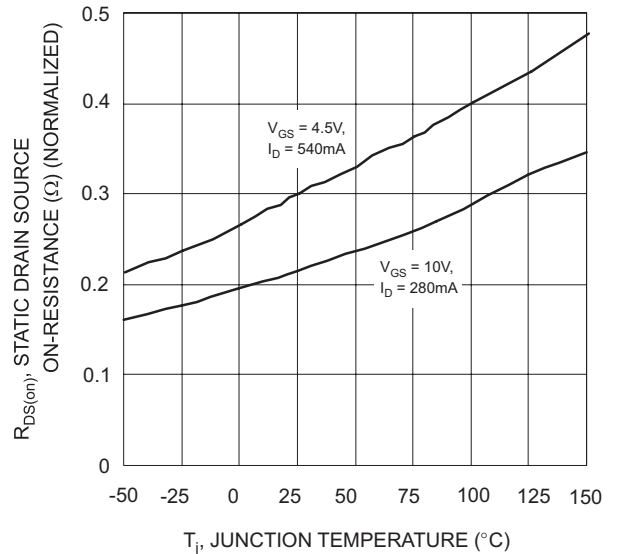


Fig. 8 Static Drain-Source, On-Resistance vs. Temperature

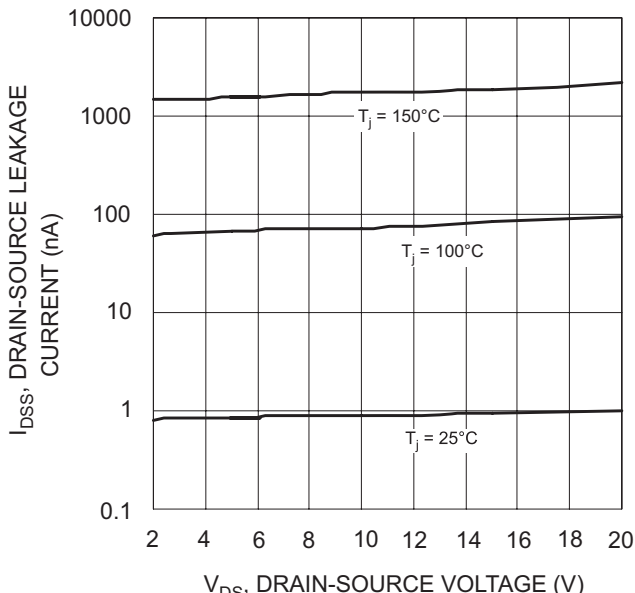


Fig. 9 Drain Source Leakage Current vs. Voltage

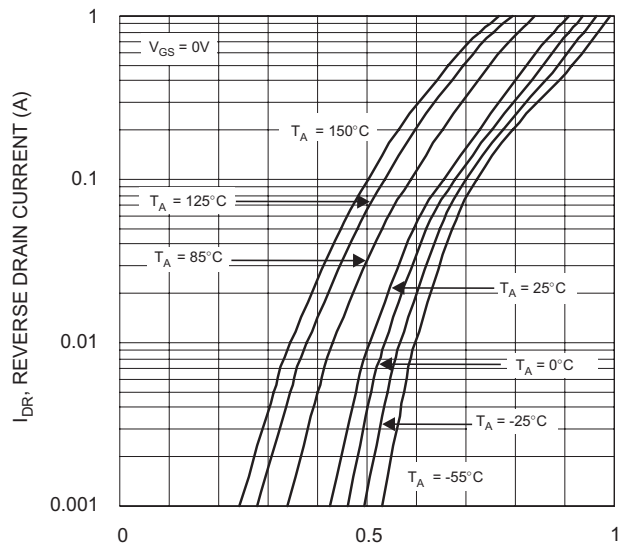


Fig. 10 Reverse Drain Current vs. Source-Drain Voltage

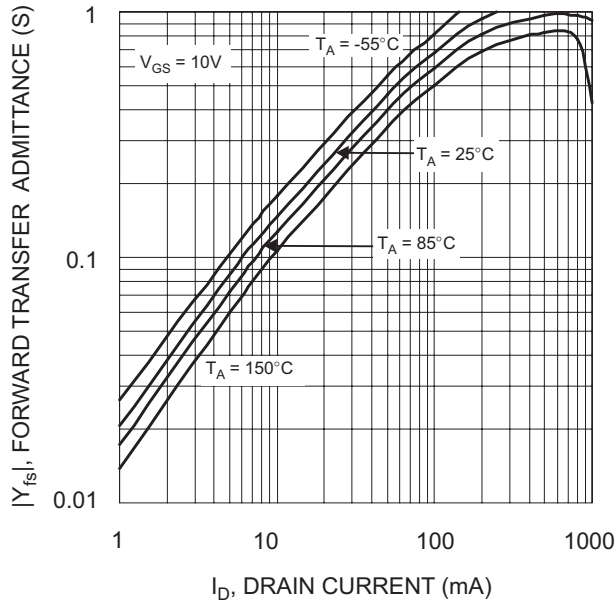


Fig. 11 Forward Transfer Admittance vs. Drain Current

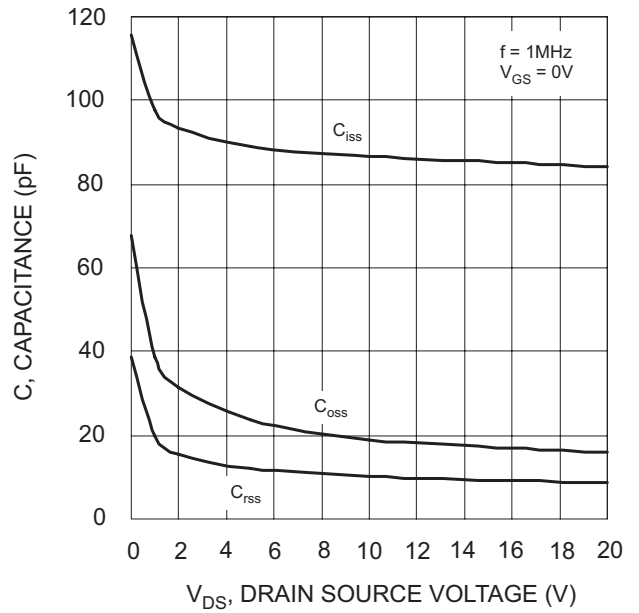


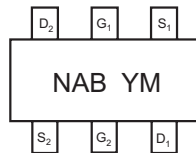
Fig. 12 Capacitance Variation

Ordering Information (Note 6)

Device	Packaging	Shipping
DMN2004DMK-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



NAB = Marking Code
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

Year	2006			2007			2008			2009		
Code	T			U			V			W		
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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