



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Features

- Dual N-Channel MOSFET
- Low On-Resistance
- Very Low Gate Threshold Voltage (1.0V max)
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- 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**

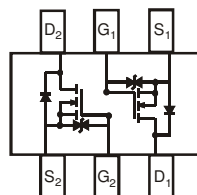


TOP VIEW



BOTTOM VIEW

SOT-26


 TOP VIEW
 Internal Schematic

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
- 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)

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|------------------------|-----------------|-----------------|------|
| Drain Source Voltage | V _{DS} | 50 | V |
| Gate-Source Voltage | V _{GS} | ±20 | V |
| Drain Current (Note 1) | I _D | 305 | mA |
| | | 800 | mA |
| | | Continuous | |
| | | Pulsed (Note 3) | |

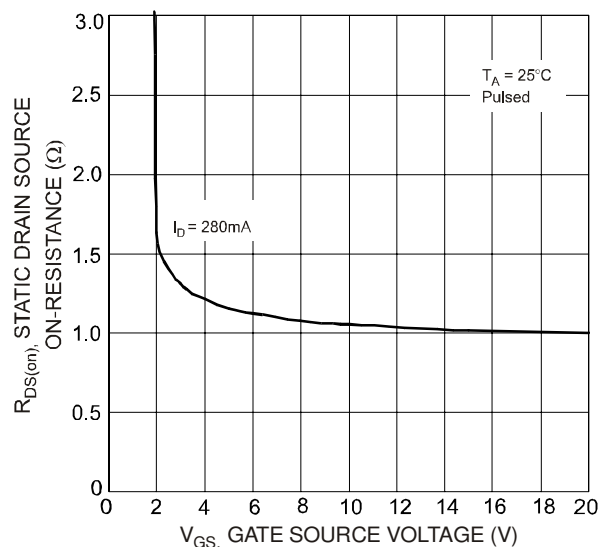
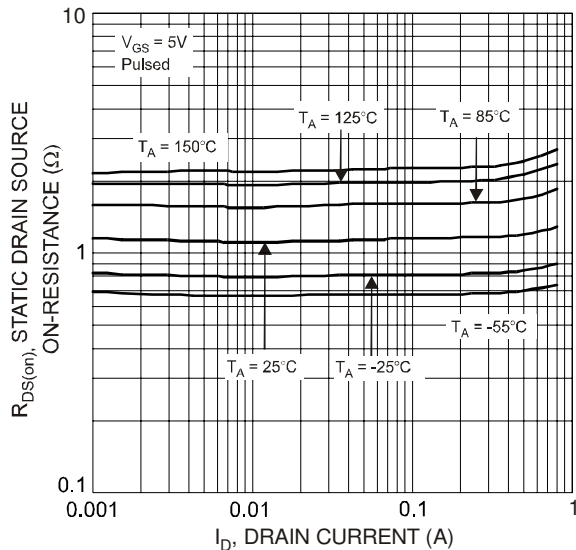
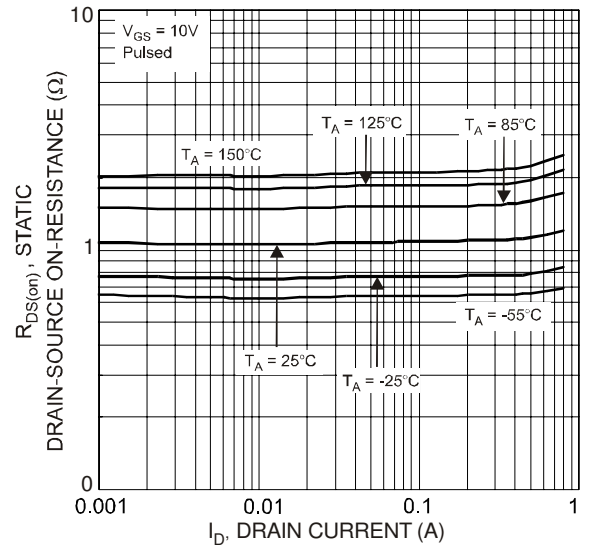
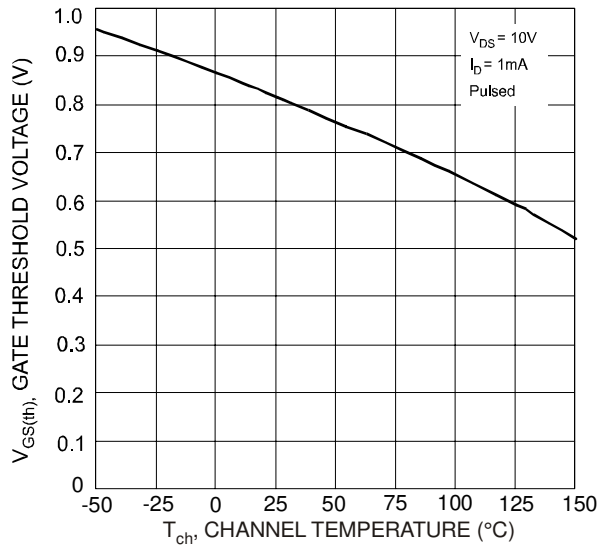
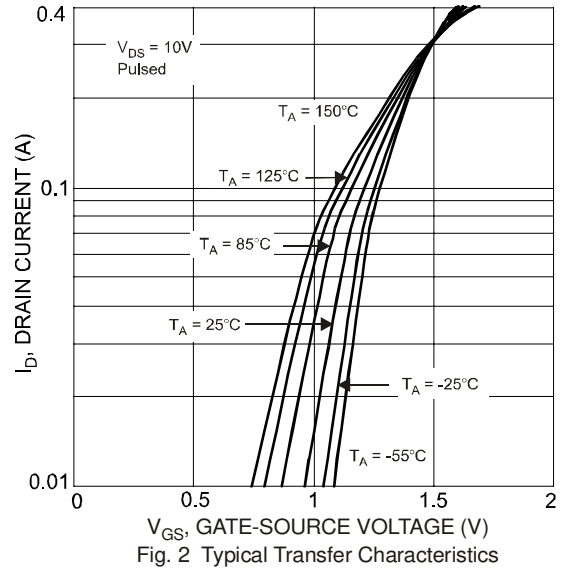
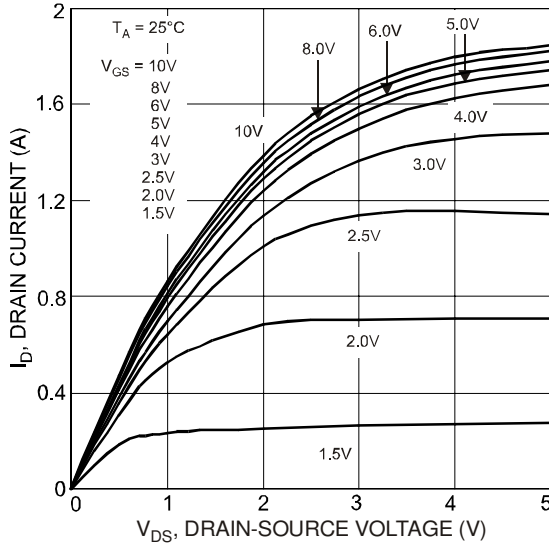
Thermal Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|-----------------------------------------|-----------------------------------|-------------|------|
| Total Power Dissipation (Note 1) | P _D | 400 | mW |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 313 | °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 | Typ | Max | Unit | Test Condition |
|---------------------------------------------------------|----------------------|------|-----|-----|------|------------------------------------------------------------|
| OFF CHARACTERISTICS (Note 5) | | | | | | |
| Drain-Source Breakdown Voltage | BV _{DSS} | 50 | — | — | V | V _{GS} = 0V, I _D = 10μA |
| Zero Gate Voltage Drain Current @ T _C = 25°C | I _{DSS} | — | — | 60 | nA | V _{DS} = 50V, V _{GS} = 0V |
| Gate-Body Leakage | I _{GSS} | — | — | 1 | μA | V _{GS} = ±12V, V _{DS} = 0V |
| | | | | 500 | nA | V _{GS} = ±10V, V _{DS} = 0V |
| | | | | 50 | nA | V _{GS} = ±5V, V _{DS} = 0V |
| ON CHARACTERISTICS (Note 5) | | | | | | |
| Gate Threshold Voltage | V _{GS(th)} | 0.49 | — | 1.0 | V | V _{DS} = V _{GS} , I _D = 250μA |
| Static Drain-Source On-Resistance | R _{DS (ON)} | — | — | 3.0 | Ω | V _{GS} = 1.8V, I _D = 50mA |
| | | — | — | 2.5 | | V _{GS} = 2.5V, I _D = 50mA |
| | | — | — | 2.0 | | V _{GS} = 5.0V, I _D = 50mA |
| On-State Drain Current | I _{D(ON)} | 0.5 | 1.4 | — | A | V _{GS} = 10V, V _{DS} = 7.5V |
| Forward Transconductance | Y _{fs} | 200 | — | — | mS | V _{DS} = 10V, I _D = 0.2A |
| Source-Drain Diode Forward Voltage | V _{SD} | 0.5 | — | 1.4 | V | V _{GS} = 0V, I _S = 115mA |
| DYNAMIC CHARACTERISTICS | | | | | | |
| Input Capacitance | C _{iSS} | — | — | 50 | pF | V _{DS} = 25V, V _{GS} = 0V f = 1.0MHz |
| Output Capacitance | C _{oSS} | — | — | 25 | pF | |
| Reverse Transfer Capacitance | C _{rSS} | — | — | 5.0 | pF | |

- Notes:
1. Device mounted on FR-4 PCB.
 2. No purposefully added lead.
 3. Pulse width ≤10μs, Duty Cycle ≤1%.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Short duration pulse test used to minimize self-heating effect.



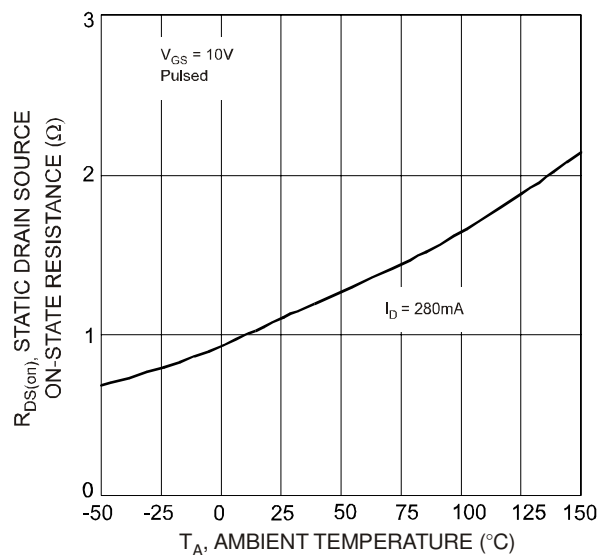


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

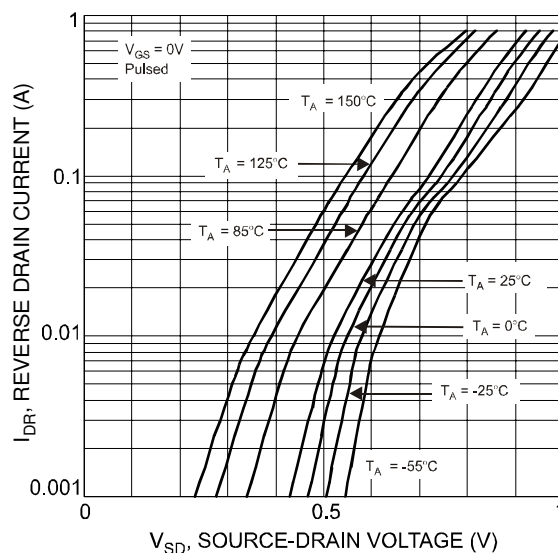


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

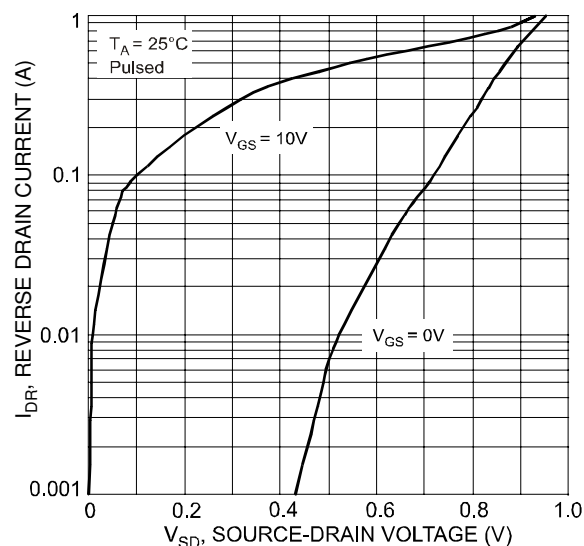


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

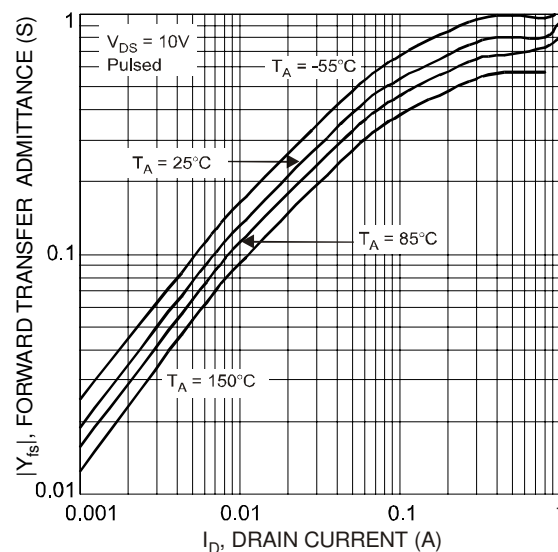


Fig. 10 Forward Transfer Admittance vs. Drain Current

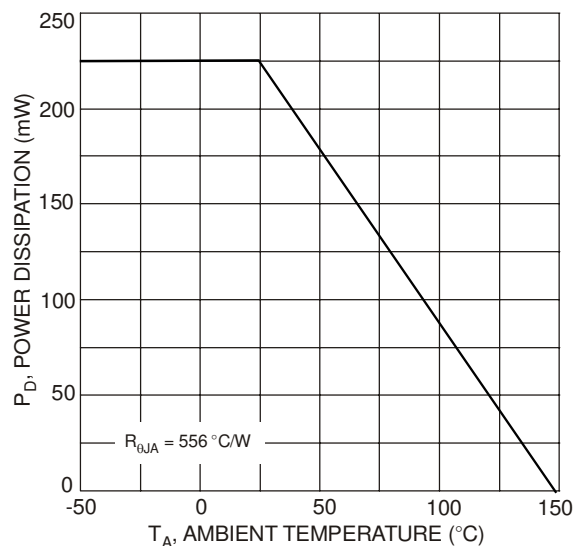


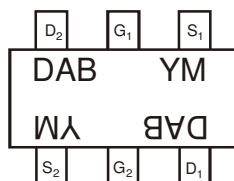
Fig. 11 Derating Curve - Total

Ordering Information (Note 6)

| Part Number | Case | Packaging |
|--------------|--------|------------------|
| DMN5L06DMK-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



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

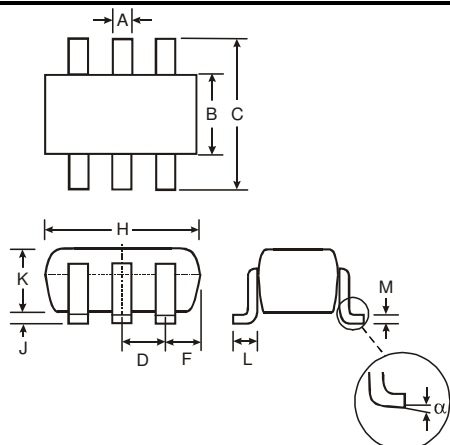
Date Code Key

Date Code Key

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|
| Code | T | U | V | W | X | Y | Z |

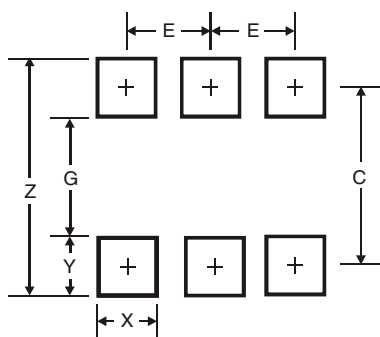
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Package Outline Dimensions



| 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 | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 3.20 |
| G | 1.60 |
| X | 0.55 |
| Y | 0.80 |
| C | 2.40 |
| E | 0.95 |

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