



DMP2160UW

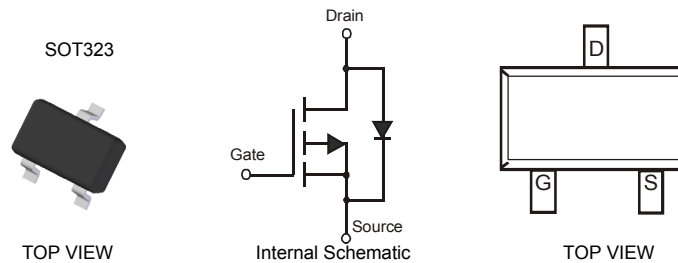
P-CHANNEL ENHANCEMENT MODE MOSFET

Features

- Low On-Resistance
- 100mΩ @ V_{GS} = -4.5V
- 120mΩ @ V_{GS} = -2.5V
- 160mΩ @ V_{GS} = -1.8V
- Very Low Gate Threshold Voltage V_{GS(th)} ≤ 1V
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- **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**

Mechanical Data

- Case: SOT323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals Connections: See Diagram Below
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208 [Ⓔ]
- Weight: 0.006 grams (approximate)

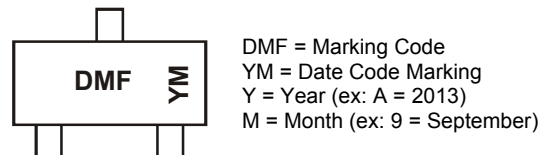


Ordering Information (Note 4)

| Part Number | Compliance | Case | Packaging |
|-------------|------------|--------|------------------|
| DMP2160UW-7 | Standard | SOT323 | 3000/Tape & Reel |

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking Information



Date Code Key

| Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------|------|------|------|------|------|------|------|------|
| Code | V | W | X | Y | Z | A | B | C |

| 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 |



DMP2160UW

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 5) | I _D | T _A = +25°C -1.5 T _A = +70°C -1.2 | A |
| Pulsed Drain Current | I _{DM} | -10 | A |

Thermal Characteristics

| Characteristic | Symbol | Value | Units |
|---|-----------------------------------|-------------|-------|
| Total Power Dissipation (Note 5) | P _D | 350 | mW |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 360 | °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 6) | | | | | | |
| Drain-Source Breakdown Voltage | BV _{DSS} | -20 | — | — | V | V _{GS} = 0V, I _D = -250μA |
| Zero Gate Voltage Drain Current | I _{DSS} | — | — | -1.0 | μA | T _J = +25°C V _{DS} = -20V, V _{GS} = 0V |
| Gate-Source Leakage | I _{GSS} | — | — | ±100 ±800 | nA | V _{GS} = ±8V, V _{DS} = 0V V _{GS} = ±12V, V _{DS} = 0V |
| ON CHARACTERISTICS (Note 6) | | | | | | |
| Gate Threshold Voltage | V _{GS(th)} | -0.4 | -0.6 | -0.9 | V | V _{DS} = V _{GS} , I _D = -250μA |
| Static Drain-Source On-Resistance | R _{DS(on)} | — | 75 | 100 | mΩ | V _{GS} = -4.5V, I _D = -1.5A |
| | | | 90 | 120 | | V _{GS} = -2.5V, I _D = -1.2A |
| | | | 120 | 160 | | V _{GS} = -1.8V, I _D = -1A |
| Forward Transconductance | g _{FS} | — | 4 | — | S | V _{DS} = -10V, I _D = -1.5A |
| Diode Forward Voltage (Note 6) | V _{SD} | — | — | -1.0 | V | V _{GS} = 0V, I _S = -1.0A |
| DYNAMIC CHARACTERISTICS | | | | | | |
| Input Capacitance | C _{iss} | — | 627 | — | pF | V _{DS} = -10V, V _{GS} = 0V f = 1.0MHz |
| Output Capacitance | C _{oss} | — | 64 | — | pF | |
| Reverse Transfer Capacitance | C _{rss} | — | 53 | — | pF | |

Notes: 3. Device mounted on 1in² FR-4 PCB with 2 oz. Copper. t ≤ 10 sec.
4. Short duration pulse test used to minimize self-heating effect.