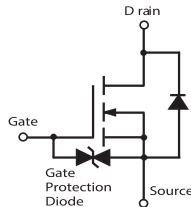


# N Channel MOSFET

**multicomp**PRO

**RoHS  
Compliant**



## Features

- $V_{DS}$  (V) = -60V
- $I_D$  = 115mA
- $R_{DS(ON)} < 5\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 7\Omega$  ( $V_{GS} = 5V$ )

## Absolute Maximum Ratings ( $T_a=25^\circ C$ )

| Parameter                                | Symbol     | Rating     | Unit         |
|------------------------------------------|------------|------------|--------------|
| Drain-Source Voltage                     | $V_{DS}$   | 60         | V            |
| Gate-Source Voltage                      | $V_{GS}$   | $\pm 20$   |              |
| Continuous Drain Current                 | $I_D$      | 115        | mA           |
| Power Dissipation                        | $P_D$      | 150        | mW           |
| Thermal Resistance, Junction- to-Ambient | $R_{thJA}$ | 833        | $^\circ C/W$ |
| Junction Temperature                     | $T_J$      | 150        | $^\circ C$   |
| Storage Temperature Range                | $T_{stg}$  | -55 to 150 |              |

## Electrical Characteristics $T_a = 25^\circ C$

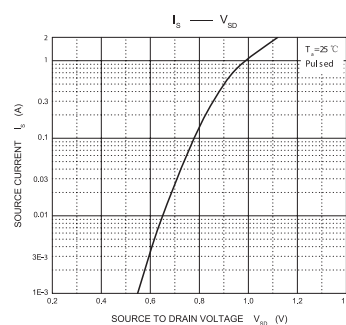
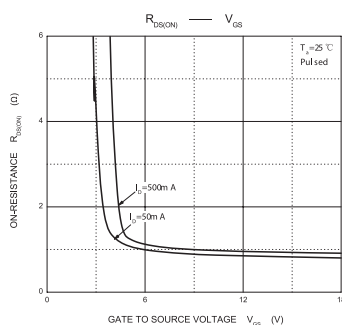
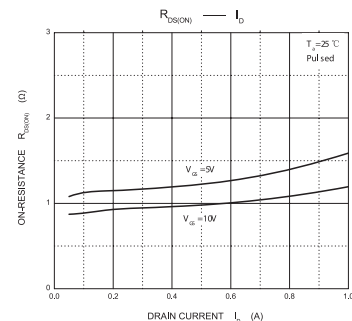
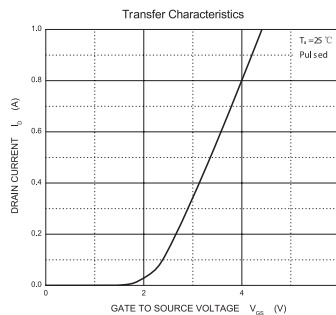
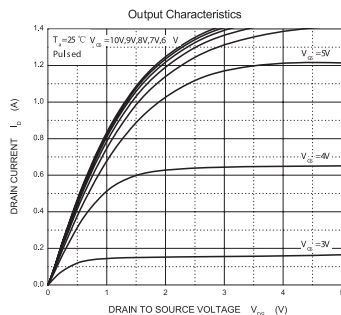
| Characteristic                    | Symbol       | Conditions                                                                         | Min  | Typ | Max      | Unit     |
|-----------------------------------|--------------|------------------------------------------------------------------------------------|------|-----|----------|----------|
| Drain-Source Breakdown Voltage    | $V_{DSS}$    | $I_D=250\mu A$ , $V_{GS}=0V$                                                       | 60   |     |          | V        |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS}=60V$ , $V_{GS}=0V$                                                         |      |     | 80       | nA       |
| Gate-Body Leakage Current         | $I_{GSS}$    | $V_{DS}=0V$ , $V_{GS}=\pm 20V$                                                     |      |     | $\pm 80$ |          |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ , $I_D=250\mu A$                                                   | 1    |     | 2.5      | V        |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}=10V$ , $I_D=500mA$                                                         |      |     | 5        | $\Omega$ |
|                                   |              | $V_{GS}=5V$ , $I_D=50mA$                                                           |      |     | 7        |          |
| On State Drain Current            | $I_{D(on)}$  | $V_{GS}=10V$ , $V_{DS}=7V$                                                         | 500  |     |          | mA       |
| Forward Transconductance          | $g_{FS}$     | $V_{DS}=10V$ , $I_D=0.2A$                                                          | 80   |     |          | ms       |
| Input Capacitance                 | $C_{iss}$    | $V_{GS}=0V$ , $V_{DS}=25V$ , $f=1MHz$                                              |      |     | 50       | pF       |
| Output Capacitance                | $C_{oss}$    |                                                                                    |      |     | 25       |          |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                                                                    |      |     | 5        |          |
| Turn-On DelayTime                 | $t_{d(on)}$  | $I_{DD}=25V$ , $I_D=0.5A$ , $V_{GEN}=10V$ ,<br>$R_L=50\Omega$ , $R_{GEN}=25\Omega$ |      |     | 20       | ns       |
| Turn-Off DelayTime                | $t_{d(off)}$ |                                                                                    |      |     | 40       |          |
| Drain-source on-voltage           | $V_{DS(on)}$ | $V_{GS}=10V$ , $I_D=500mA$                                                         |      |     | 3.75     | V        |
|                                   |              | $V_{GS}=5V$ , $I_D=50mA$                                                           |      |     | 0.375    |          |
| Diode Forward Voltage             | $V_{SD}$     | $I_S=115mA$ , $V_{GS}=0V$                                                          | 0.55 |     | 1.2      |          |

**Note:** 2. Short duration test pulse used to minimize self-heating effect.

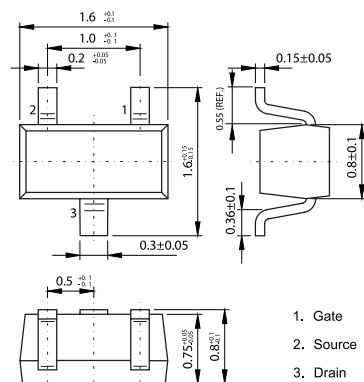
Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
sg.element14.com/b/multicomp-pro

**multicomp**PRO

## Typical Characteristics



## Diagram



Dimensions : Millimetres

## Part Number Table

| Description                            | Part Number |
|----------------------------------------|-------------|
| MOSFET, N Channel, 0.115A, 60V, SOT523 | 2N7002T     |

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