

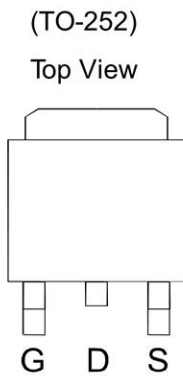
Features

- $V_{DS} -100V$
 $I_D -13A$
 $R_{DS(ON)}$ (at $V_{GS}=-10V$) $< 210m\Omega$

Application

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

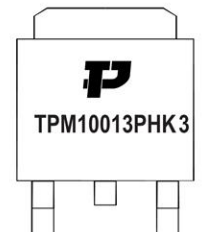
Package and Pin Configuration



1. GATE
2. DRAIN
3. SOURCE



Marking:



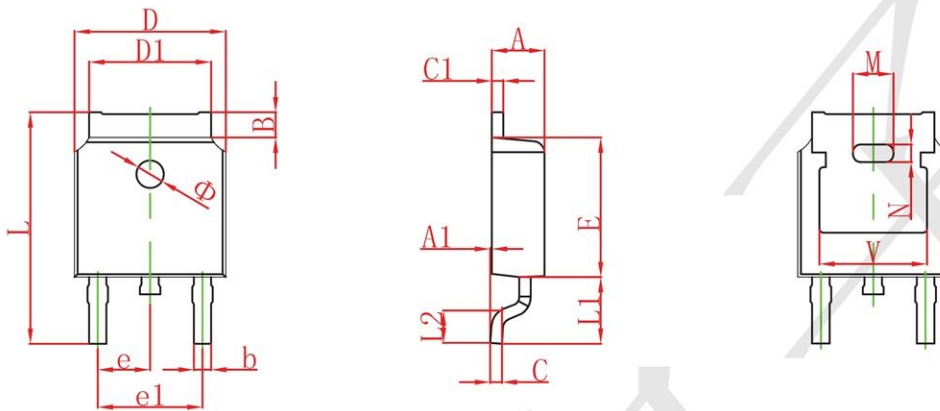
Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|----------|--------------|
| Drain-Source Voltage | V_{DS} | -100 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | |
| Continuous Drain Current | I_D | -13 | A |
| Pulsed Drain Current ① | I_{DM} | -30 | |
| Continuous Source-Drain Current(Diode Conduction) | I_S | 13 | |
| Power Dissipation ② | P_D | 66 | W |
| Thermal Resistance from Junction to Ambient ($t \leq 5s$) | $R_{\theta JA}$ | 110 | $^\circ C/W$ |
| Operating Junction | T_J | 175 | $^\circ C$ |
| Storage Temperature | T_{STG} | -55~+175 | $^\circ C$ |

Electrical Characteristics (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-----------------------------------|---------------------|---|------|------|------|------|
| Static Parameters | | | | | | |
| Drain-Source Breakdown Voltage | BV _{DSS} | V _{GS} = 0V, I _D = -250μA | -100 | | | V |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = -250μA | -2 | | -4 | V |
| Gate-Body leakage Current | I _{GSS} | V _{DS} = 0V, V _{GS} = ±20V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = -100V, V _{GS} = 0V | | | -1 | μA |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} = -10V, I _D = -6A | | 180 | 210 | mΩ |
| Forward Transconductance | g _{fs} | V _{DS} = -50V, I _D = -12A | | 3.2 | | S |
| Diode Forward Voltage | V _{SD} | I _S = -1A, V _{GS} = 0V | | -0.8 | -1.2 | V |
| Dynamic Parameters | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} = -30V, V _{GS} = 0V, f = 1MHz | | 760 | | pF |
| Output Capacitance | C _{oss} | | | 260 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 170 | | pF |
| Total Gate Charge | Q _g | V _{DS} = -80V, V _{GS} = - 10V, I _D = -12A | | 58 | | nC |
| Gate Source Charge | Q _{gs} | | | 8.3 | | nC |
| Gate Drain Charge | Q _{gd} | | | 32 | | nC |
| Switching Parameters | | | | | | |
| Turn-On DelayTime | t _{d(on)} | V _{DD} = -50V R _L = 10Ω, I _D = -8.4A, V _{GEN} = -10V, R _g = 9Ω | | 130 | | ns |
| Turn-On Rise Time | t _r | | | 130 | | ns |
| Turn-Off DelayTime | t _{d(off)} | | | 135 | | ns |
| Turn-Off Fall Time | t _f | | | 140 | | ns |

TO252 Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.380 | 0.087 | 0.094 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| B | 0.800 | 1.400 | 0.031 | 0.055 |
| b | 0.710 | 0.810 | 0.028 | 0.032 |
| c | 0.460 | 0.560 | 0.018 | 0.022 |
| c1 | 0.460 | 0.560 | 0.018 | 0.022 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.130 | 5.460 | 0.202 | 0.215 |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.286 TYP. | | 0.090 TYP. | |
| e1 | 4.327 | 4.727 | 0.170 | 0.186 |
| M | 1.778 REF. | | 0.070 REF. | |
| N | 0.762 REF. | | 0.018 REF. | |
| L | 9.800 | 10.400 | 0.386 | 0.409 |
| L1 | 2.9 REF. | | 0.114 REF. | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| V | 4.830 REF. | | 0.190 REF. | |
| Φ | 1.100 | 1.300 | 0.043 | 0.051 |

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