

TSM4459

30V P-Channel MOSFET



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

| Parameter | Conditions | Symbol | Min | Тур | Max | Unit | | | |
|---|--|---------------------|-----|------|------|------|--|--|--|
| Static | | | | | | | | | |
| Drain-Source Breakdown Voltage | $V_{GS} = 0V, I_D = -250uA$ | BV _{DSS} | -30 | | | V | | | |
| Gate Threshold Voltage | $V_{DS} = V_{GS}, I_{D} = -250 \mu A$ | $V_{GS(TH)}$ | -1 | | -3 | V | | | |
| Gate Body Leakage | $V_{GS} = \pm 20 V, V_{DS} = 0 V$ | I _{GSS} | | | ±100 | nA | | | |
| Zero Gate Voltage Drain Current | $V_{DS} = -30V, V_{GS} = 0V$ | I _{DSS} | | | -1.0 | μΑ | | | |
| Proin Source On State Registeres | $V_{GS} = -10V, I_{D} = -9A$ | R _{DS(ON)} | | 4 | 5.2 | mΩ | | | |
| Drain-Source On-State Resistance ^a | $V_{GS} = -4.5V, I_{D} = -9A$ | | | 7 | 9.5 | | | | |
| Diode Forward Voltage | $I_S = -18A, V_{GS} = 0V$ | V_{SD} | | 0.8 | | V | | | |
| Dynamic | | | | | | | | | |
| Total Gate Charge | $V_{DS} = -24V, I_{D} = -17A,$ $V_{GS} = -4.5V$ | Q_g | -2 | 78.4 | | | | | |
| Gate-Source Charge | | Q_{gs} | 0 | 25.1 | | nC | | | |
| Gate-Drain Charge | | Q _{gd} | | 38.7 | | | | | |
| Gate Resistance | f = 1.0MHz | R | | 2.88 | | Ω | | | |
| Input Capacitance | $V_{DS} = -15V, V_{GS} = 0V,$ | Siss | | 6205 | | | | | |
| Output Capacitance | | Oss | | 963 | | pF | | | |
| Reverse Transfer Capacitance | f = 1.0MHz | C_{rss} | | 330 | | | | | |
| Switching | | | | | | | | | |
| Turn-On Delay Time | | t _{d(on)} | | 75.2 | | nS | | | |
| Turn-On Rise Time | $V_{DD} = -15V, K = 5\Omega,$ | t _r | | 33.8 | | | | | |
| Turn-Off Delay Time | $V_{DD} = -15V, R = 15\Omega,$ $V_{GEN} = -10V,$ $R_G = 4.7\Omega$ | t _{d(off)} | | 275 | | | | | |
| Turn-Off Fall Time | NG= 4.112 | t _f | | 92.1 | | | | | |

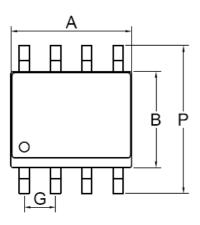
2/4 Version: A12

Notes: a. pulse test: PW ≤300µS, duty cycle ≤2%

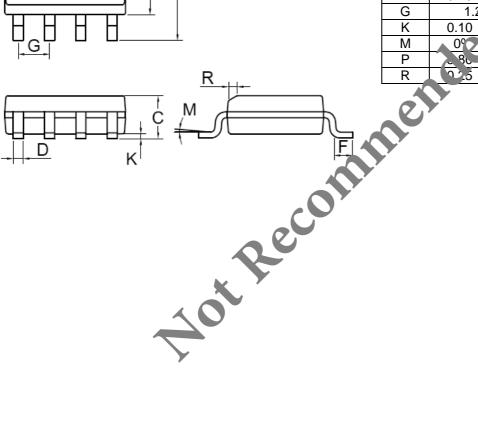




SOP-8 Mechanical Drawing



| SOP-8 DIMENSION | | | | | | | |
|-----------------|-------------|------|---------|-------|--|--|--|
| DIM | MILLIMETERS | | INCHES | | | | |
| | MIN | MAX | MIN | MAX. | | | |
| Α | 4.80 | 5.00 | 0.189 | 0.196 | | | |
| В | 3.80 | 4.00 | 0.150 | 0.157 | | | |
| С | 1.35 | 1.75 | 0.054 | 0.068 | | | |
| D | 0.35 | 0.49 | 0.014 | 0.019 | | | |
| F | 0.40 | 1.25 | 0.016 | 0.049 | | | |
| G | 1.2. BSC | | 0.05BSC | | | | |
| K | 0.10 | 0.25 | 0.004 | 0.009 | | | |
| M | 09 | 7º | 00 | 7° | | | |
| Р | ~ 3L | 6.20 | 0.229 | 0.244 | | | |
| R | 7.5 | 0.50 | 0.010 | 0.019 | | | |



Version: A12

3/4

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Aot Recommended.

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