## 5 é / Descriptions

TO-252 .> / / x N ?ú 3 MOS « | • ’ož
N-CHANNEL MOSFET in a TO-252 Plastic Package.

## ¤ ª / Features

z õ > z F Ø • ¼ , † ½ k —)í D }ož
Low gate charge, low crss, fast switching, HF Product.

## Ð ÷ / Applications

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These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

## Ã W ] Ô · / Equivalent Circuit

## • Û - æ / Pinning

PIN1 y G PIN 2 y D PIN 3 y S PIN 4 y D

## , M V / Marking

• - ~ ª ¢ož See Marking Instructions.

| @ ƒ<br>Parameter | … Z<br>Symbol | ƒ ›<br>Rating | % y<br>Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DSS}$ | 500 | V |
| Drain Current | $I_D$(Tc=25 ) | 5 | A |
| Drain Current - Pulsed | $I_{DM}$ | 16 | A |
| Gate-Source Voltage | $V_{GSS}$ | ±30 | V |
| Avalanche Current | $I_{AR}$ | 4 | A |
| Single Pulsed Avalanche Energy | $E_{AS}$ | 300 | mJ |
| Repetitive Avalanche Energy | $E_{AR}$ | 4.8 | mJ |
| Power Dissipation ($T_C$=25 ) | $P_D$ | 48 | W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -55to150 | |
| Thermal resistance,Junction to Ambient | R ©JA | 100 | / W |
| Thermal resistance,Junction to Case | R ©JC | 2.6 | / W |

| @ ƒ<br>Parameter | … Z<br>Symbol | y ¡ Ú ^<br>Test Conditions | Â 4 ›<br>Min | Á º ›<br>Typ | Â Ý ›<br>Max | % y<br>Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V $I_D$=250 A | 500 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=500V $V_{GS}$=0V | | | 1 | A |
| | | $V_{DS}$=400V $T_C$=125 | | | 10 | A |
| Gate-Body Leakage Current Forward | $I_{GSS}$ | $V_{GS}$=±30V $V_{DS}$=0V | | | ±0.1 | A |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ $I_D$=250 A | 2 | | 4 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V $I_D$=2.5A | | 1.5 | 1.6 | |
| Drain-Source Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V $I_S$=5A | | | 1.4 | V |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V $V_{GS}$=0V f=1MHz | | 575 | | pF |
| Output Capacitance | $C_{oss}$ | | | 160 | | pF |

Reverse Transfer Capacitance 62(Ca17972 0 0 7.2 245.58 199.94r3 Tm .0023 Tc 0 Tw (iss)Tj e ).4958 0 0 10.5 556.

## Ô ? d • Ž ¢ / Electrical Characteristic Curve

## Ø ¤ = ) ¢ / Package Dimensions

## , M y ƒ / Marking Instructions

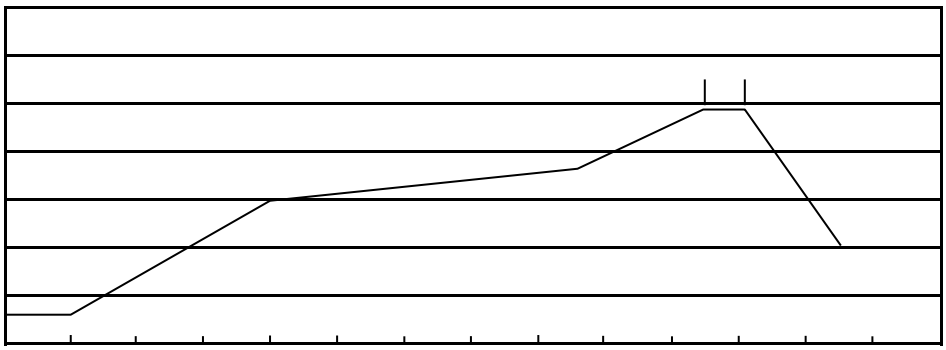
BR
5N50
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Note:

| | |
|---|---|
| BR: | Company Code |
| 5N50: | Product Type |
| ****: | Lot No. Code, code change with Lot No |

## š WD t … • Ž ¢ ( x / ) / : K S V K X G Z [ X K 6 X U L O R K L U X / 8 8 K L R U ] 9 U R J K X O T M 6



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1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

## ÂD /Cã p ¯ » ] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 - ž • y 10 r1 sec. Temp.:260±5 Time:10±1 sec

## G P á / Packaging SPEC.

2 & x / REEL

| Package Type 7>û ˜ E | Units ;>û ¦H | | | | | Dimension ;>û p . (unit Æmm³) | | |
|---|---|---|---|---|---|---|---|---|
| | Units/Reel / -- | Reels/Inner Box -- /- | Units/Inner Box /- | Inner Boxes/Outer Box - /1ç | Units/Outer Box /1ç | Reel | Inner Box× | Outer Box1ç |
| TO-252 | 2,500 | 2 | 5,000 | 6 | 30,000 | 13 s ×16 | 360×360×50 | 380×335×366 |

ì ’ x / TUBE

| Package Type 7>û ˜ E | Units ;>û ¦H | | | | | Dimension ;>û p . (unit Æmm³) | | |
|---|---|---|---|---|---|---|---|---|
| | Units/Tube / •1× | Tubes/Inner Box •1× /- | Units/Inner Box /- | Inner Boxes/Outer Box - /1ç | Units/Outer Box /1ç | Tube •1× | Inner Box× | Outer Box1ç |
| TO-251/252 | 75 | 48 | 3,600 | 5 | 18,000 | 526×20.5×5.25 | 555×164×50 | 575×290×180 |

## „ Ð y ƒ / Notices