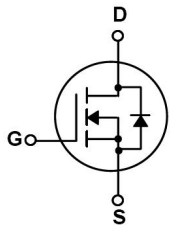


TO-252      N      MOS      N-CHANNEL MOSFET in a TO-252 Plastic Package.

Fast switching, low on resistance, low gate charge, low reverse transfer capacitances.

Used in various power switching circuit for system miniaturization and higher efficiency .

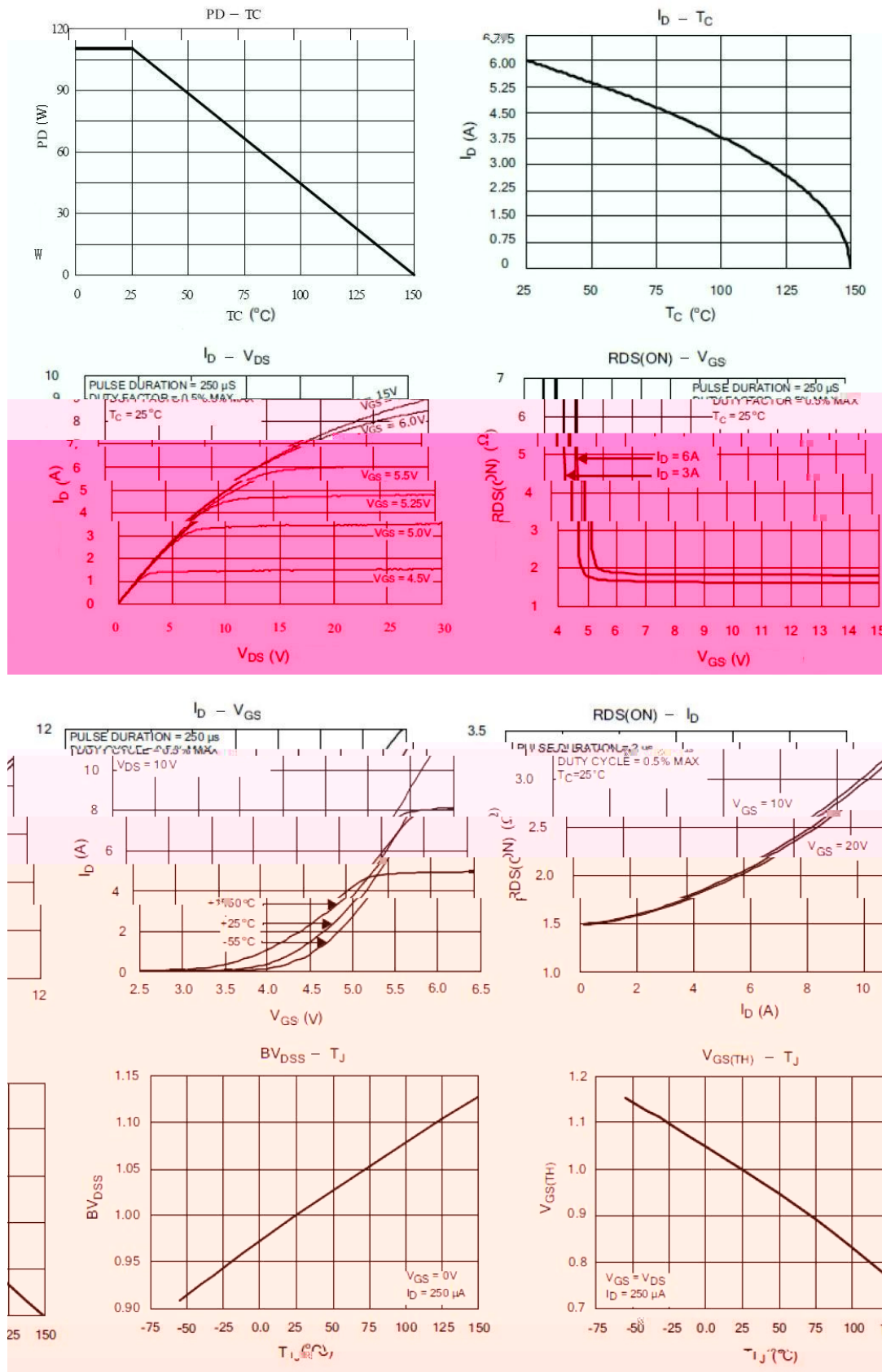


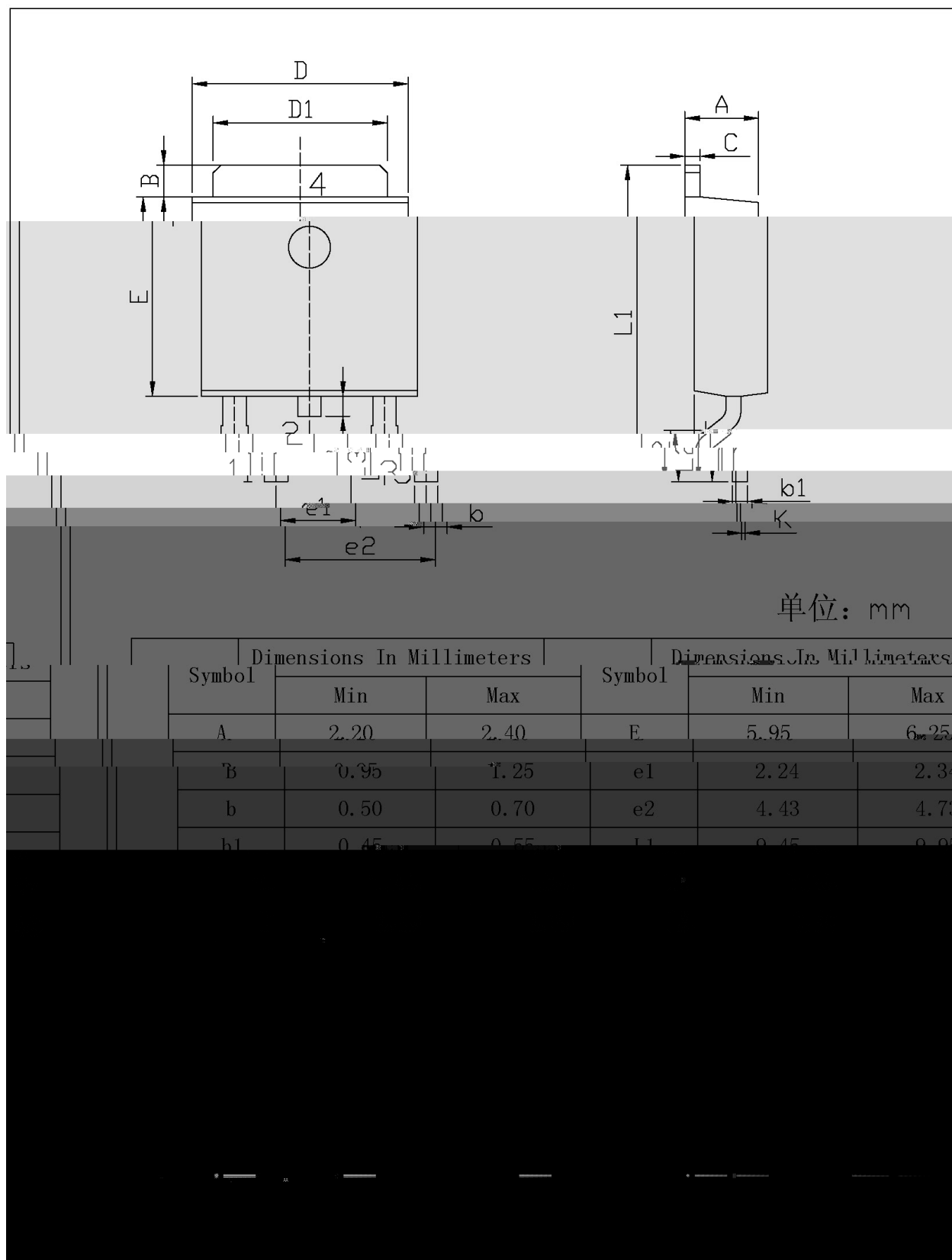
PIN1   G      PIN 2   D      PIN 3   S      PIN 4   D

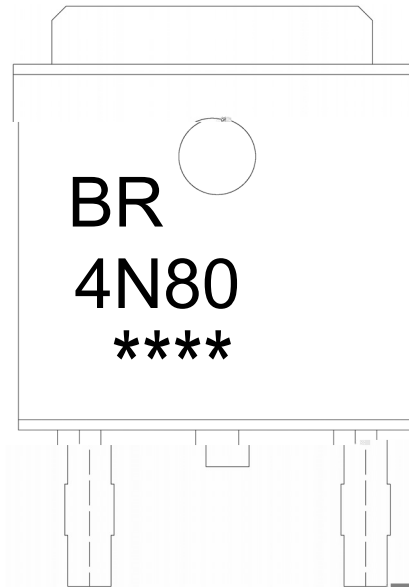
See Marking Instructions.

| Parameter                               | Symbol                       | Rating     | Unit |
|-----------------------------------------|------------------------------|------------|------|
| Drain-Source Voltage                    | $V_{DSS}$                    | 800        | V    |
| Drain Current                           | $I_D(T_c=25^\circ\text{C})$  | 4.0        | A    |
| Drain Current                           | $I_D(T_c=100^\circ\text{C})$ | 3.2        | A    |
| Drain Current - Pulsed                  | $I_{DM}$                     | 16         | A    |
| Gate-Source Voltage                     | $V_{GS}$                     | $\pm 30$   | V    |
| Single Pulsed Avalanche Energy          | $E_{AS}$                     | 300        | mJ   |
| Repetitive Avalanche Energy             | $E_{AR}$                     | 26         | mJ   |
| Avalanche Current                       | $I_{AR}$                     | 2.3        | A    |
| Power Dissipation                       | $P_D(T_c=25^\circ\text{C})$  | 110        | W    |
| Operating and Storage Temperature Range | $T_J, T_{STG}$               | -55 to 150 |      |
| Thermal Resistance, Junction to Case    | $R_{\theta JC}$              | 1.14       | /W   |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$              | 62.5       | /W   |

| Parameter                          | Symbol       | Test Conditions                                         | Min | Typ  | Max       | Unit     |
|------------------------------------|--------------|---------------------------------------------------------|-----|------|-----------|----------|
| Drain-Source Breakdown Voltage     | $BV_{DSS}$   | $V_{GS}=0V$ $I_D=250\mu A$                              | 800 |      |           | V        |
| Zero Gate Voltage Drain Current    | $I_{DSS}$    | $V_{DS}=800V$ $V_{GS}=0V$                               |     |      | 25        | $\mu A$  |
|                                    |              | $V_{DS}=640V$ $T_a=125^\circ\text{C}$                   |     |      | 250       | $\mu A$  |
| Gate-Body Leakage Current Forward  | $I_{GSS}$    | $V_{GS}=\pm 30V$ $V_{DS}=0V$                            |     |      | $\pm 100$ | nA       |
| Gate Threshold Voltage             | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=250\mu A$                          | 2.0 |      | 4.0       | V        |
| Static Drain-Source On-Resistance  | $R_{DS(on)}$ | $V_{GS}=10V$ $I_D=2.4A$                                 |     | 1.85 | 2.2       | $\Omega$ |
| Forward Transconductance           | $g_{FS}$     | $V_{DS}=15V$ $I_D=2.4A$                                 |     | 7.5  |           | S        |
| Drain-Source Diode Forward Voltage | $V_{SD}$     | $V_{GS}=0V$ $I_S=4.0A$                                  |     |      | 1.5       | V        |
| Input Capacitance                  | $C_{iss}$    | $V_{DS}=25V$ $V_{GS}=0V$<br>$f=1.0MHz$                  |     | 1350 |           | pF       |
| Output Capacitance                 | $C_{oss}$    |                                                         |     | 100  |           | pF       |
| Reverse Transfer Capacitance       | $C_{rss}$    |                                                         |     | 15   |           | pF       |
| Turn-On Delay Time                 | $t_{d(on)}$  | $V_{DD}=400V$ $I_D=4.0A$<br>$R_G=12\Omega$ $V_{GS}=10V$ |     | 16   |           | ns       |
| Turn-On Rise Time                  | $t_r$        |                                                         |     | 18   |           | ns       |
| Turn-Off Delay Time                | $t_{d(off)}$ |                                                         |     | 50   |           | ns       |
| Turn-Off Fall Time                 | $t_f$        |                                                         |     | 25   |           | ns       |







BR

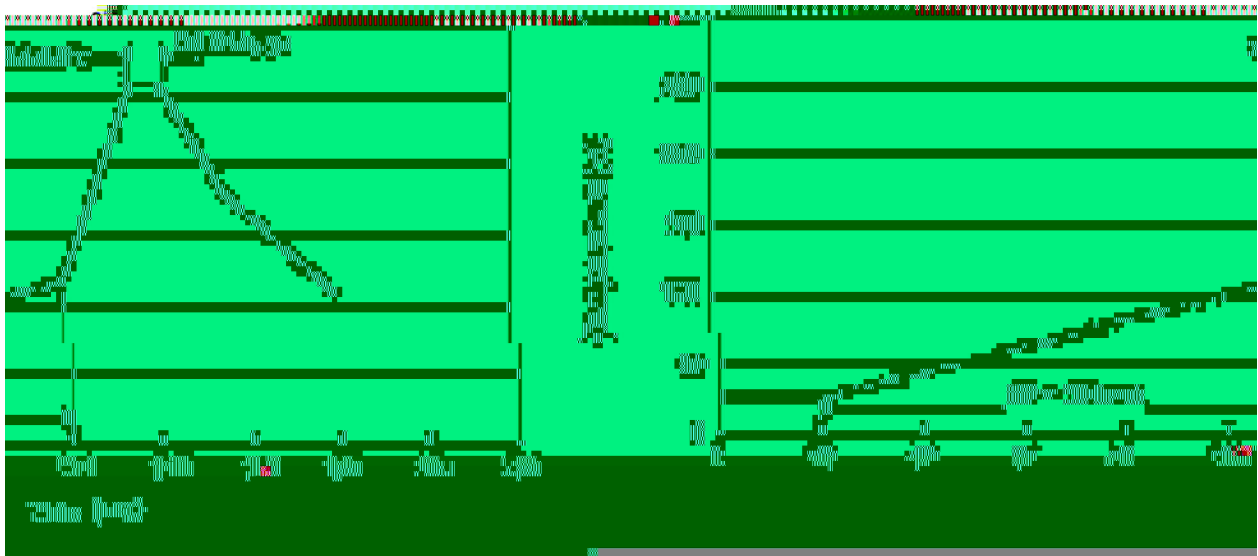
4N80

Note:

BR: Company Code

4N80: Product Type.

\*\*\*\*: Lot No. Code, code change with Lot No.



Note:

- 1            25   150            60   90sec;
- 2            255   5                    5   0.5sec;
- 3                    2   10   /sec.

- 1.Preheating:25~150 , Time:60~90sec.
- 2.Peak Temp.:255 5 , Duration:5 0.5sec.
3. Cooling Speed: 2~10 /sec.

270 5

10 1 sec.

Temp.:270±5

Time:10±1 sec

/ REEL

| Package Type | Units      |                 |                 |                       |                 | Dimension (unit mm <sup>3</sup> ) |            |             |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|------------|-------------|
|              | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel                              | Inner Box  | Outer Box   |
| TO-252       | 2,500      | 2               | 5,000           | 5                     | 25,000          | 13 ×16                            | 360×360×50 | 385×257×392 |

/ TUBE

| Package Type | Units      |                 |                 |                       |                 | Dimension (unit mm <sup>3</sup> ) |            |           |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|------------|-----------|
|              | Units/Tube | Tubes/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Tube                              | Inner Box  | Outer Box |
| TO-251/252   | 75         | 48              | 3,600           | 5                     | 18,000          | 526×20.5×5.25                     | 555×164×50 |           |