: 5 , 2 .> / / x 4 ?ú 3 5 9 « | • ’ož

N-Channel MOSFET in a TO-220FL Plastic Package.

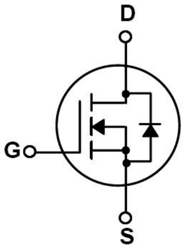
$V_{DS}$=500V $I_D$=24A

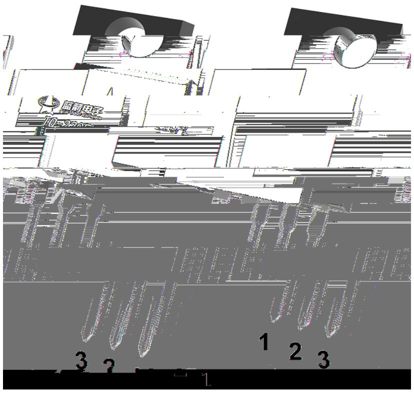
$R_{DS(ON)}$@10V ”0.25 (Typ. 0.17 )

$R_{DS(ON)}$@6V ”0.3 (Typ. 0.18m )

9 ä 9o• ä , ä • ¼ • k ò ä | ä • ¼ % ›o• ä œ ƒ û 3ož

Designed for high voltage, high speed power switching applications such as high efficiency switched mode power supplies, active power factor correction.





PIN1 y G PIN 2 y D PIN 3 y S

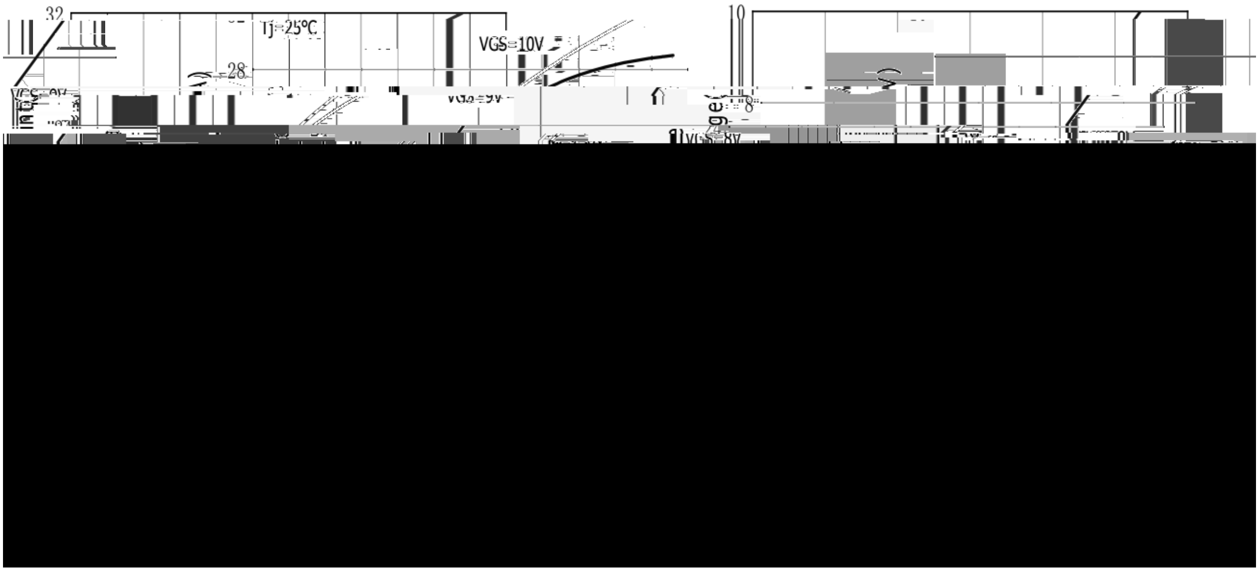
## , M V / Marking

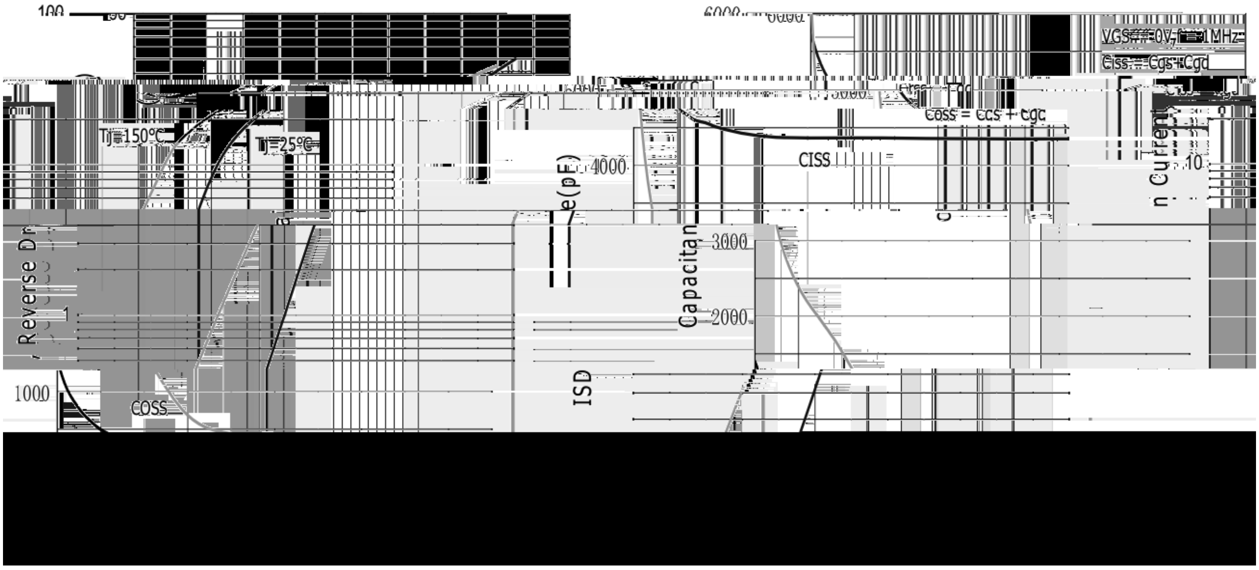
| @ ƒ<br>Parameter | … Z<br>Symbol | ƒ ›<br>Rating | % y<br>Unit |
|---|---|---|---|
| Drain-to-Source Breakdown Voltage | $V_{DSS}$ | 500 | V |
| Continuous Drain Current | $I_D$(Tc=25 ) | 24 | A |
| Drain Current Pulsed | $I_{DM}$ | 90 | A |
| Gate-to-Source Voltage | $V_{GS}$ | ±30 | V |
| Avalanche Current | $I_{AS}$ | 21 | A |
| Single Pulse Avalanche Energy | $E_{AS}$ | 1960 | mJ |
| Power Dissipation | $P_D$(Tc=25 ) | 50 | W |
| Junction Temperature Range | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |
| Thermal Resistance Junction-Case | R $_{JC}$ | 2.5 | /W |

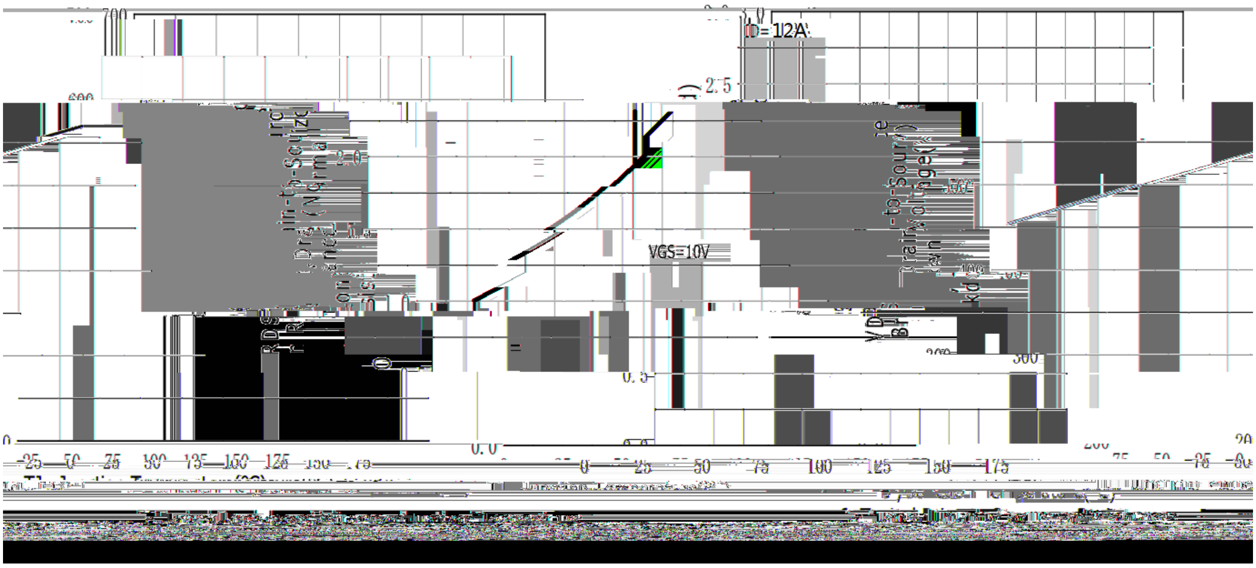
| @ ƒ<br>Parameter | … Z<br>Symbol | y ¡ Ú ^<br>Test Conditions | Â 4 ›<br>Min | Á º ›<br>Typ | Â Ý ›<br>Max | % y<br>Unit |
|---|---|---|---|---|---|---|
| Drain-to-Source Breakdown Voltage | $V_{DSS}$ | $V_{GS}$=0V $I_D$=250 A | 500 | 550 | | V |
| Drain-to-Source Leakage Current | $I_{DSS}$ | $V_{DS}$=500V $V_{GS}$=0V | | | 1.0 | A |
| Gate-to-Source Forward Leakage | $I_{GSS}$ | $V_{GS}$=±30V $V_{DS}$=0V | | | ±100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ $I_D$=250 A | 2.0 | | 4.0 | V |
| Static Drain-to-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V $I_D$=12A | | 0.17 | 0.25 | |
| Static Drain-to-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=6V $I_D$=6A | | 0.18 | 0.3 | |

Diode Forward Voltage $V_{SD}$ V

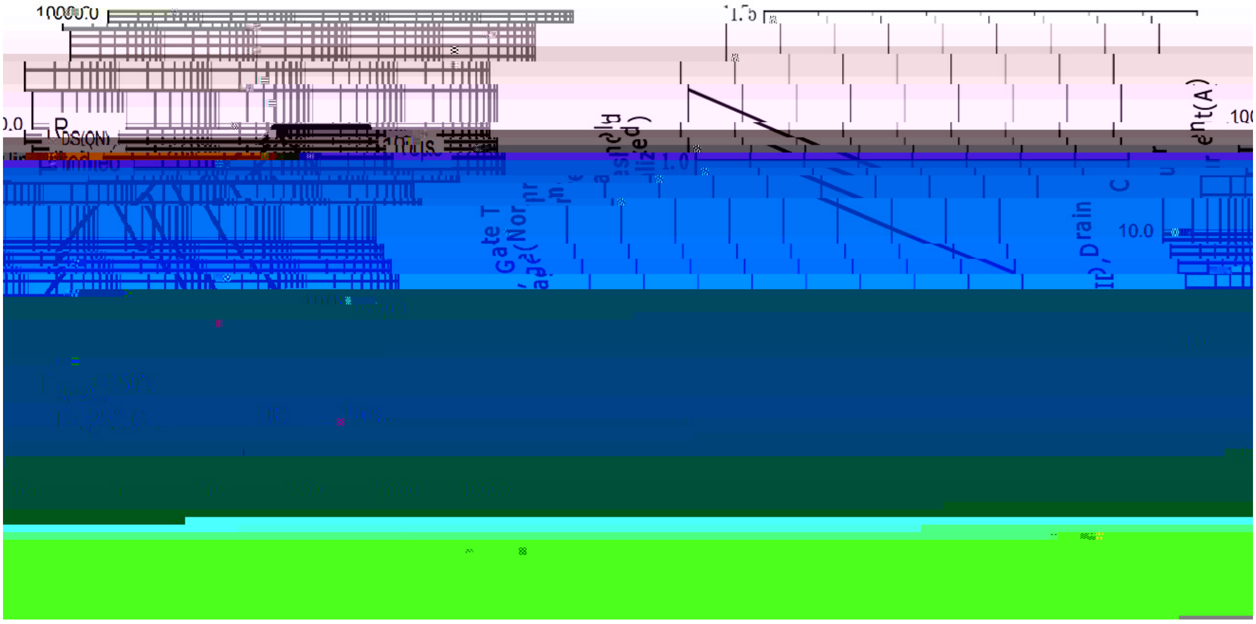
## Ô ? d • Ž ¢ / Electrical Characteristic Curve



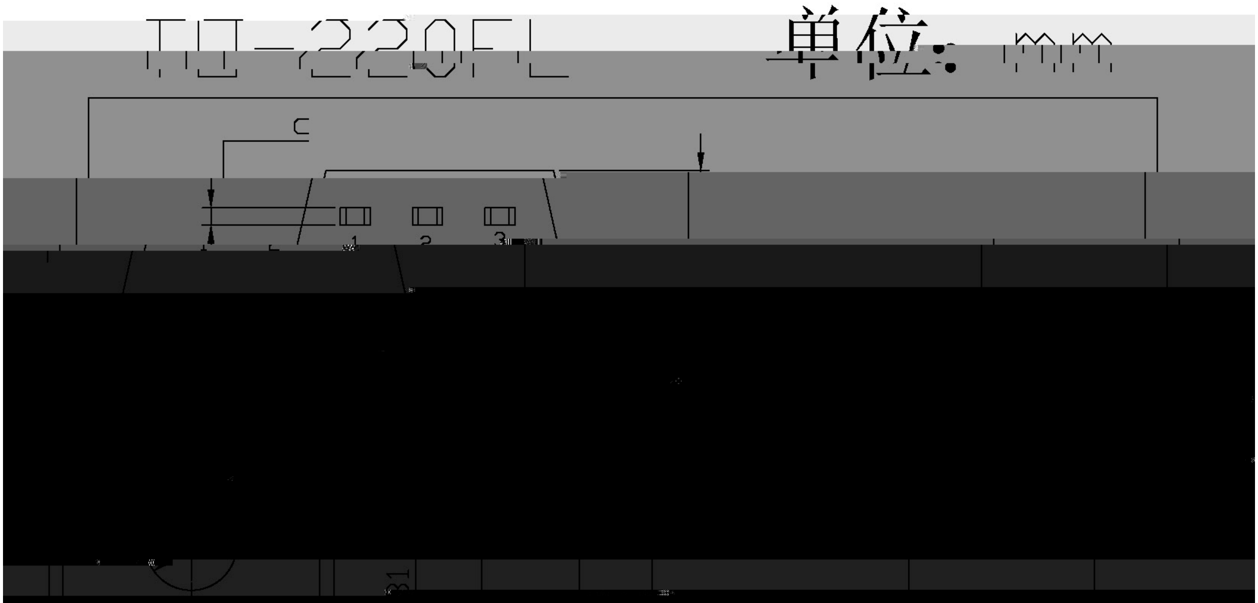


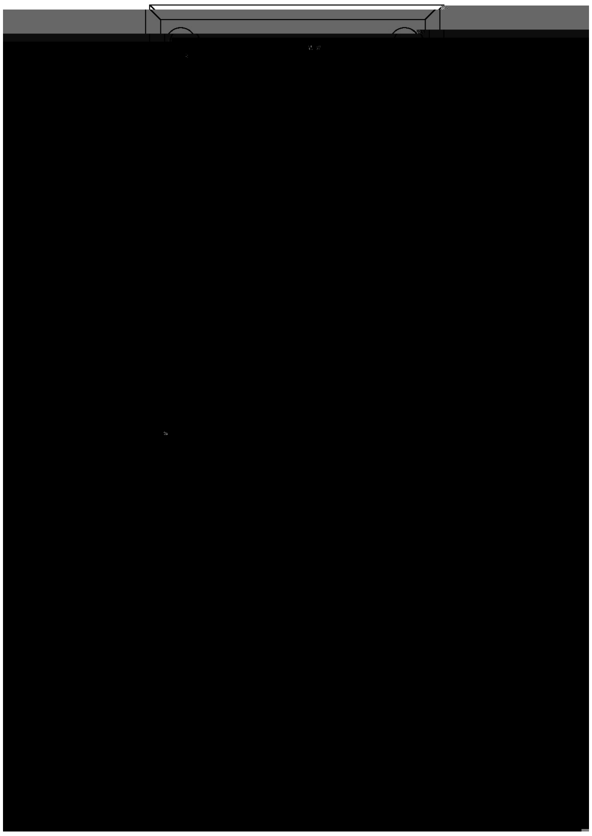


## Ô ? d • Ž ¢ / Electrical Characteristic Curve

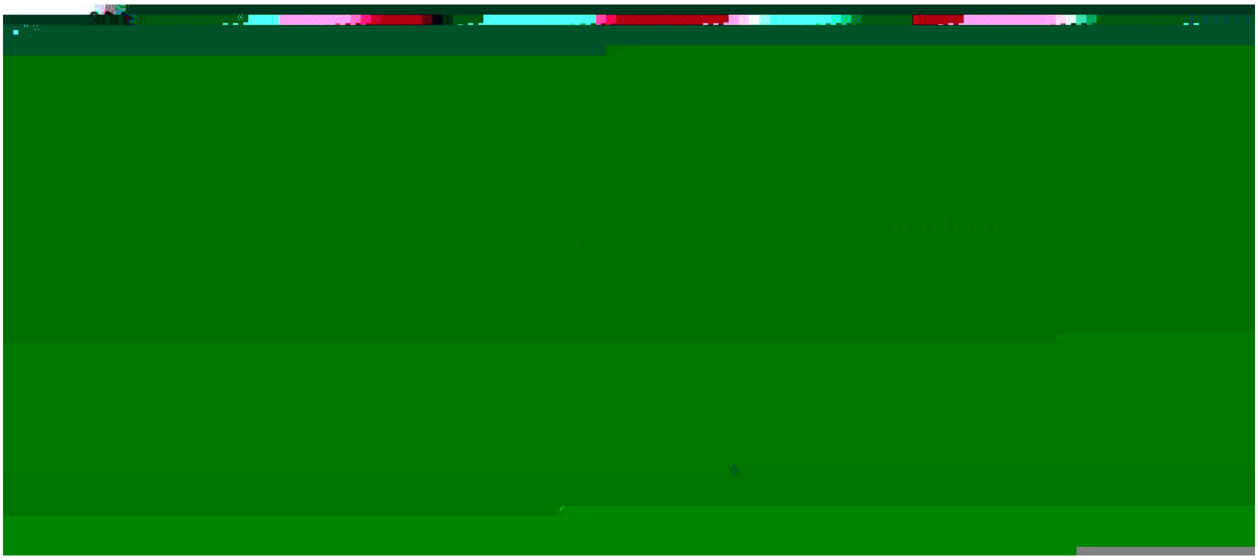


## Ø ¤ = ) ¢ / Package Dimensions





## G PD t … • Ž ¢ ( x / ) / Temperature Profile for Dip Soldering(Pb-Free)



ª ¢ y

1o• Ä ½ “ † 25 ½150 - k ž • 60 ½90sec;

2o• Q › “ † 255 r 5 - k ž • 4 Ò 5 r 0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:25~150 - , Time:60~90sec.

2.Peak Temp.:255 r 5 - , Duration:5 r 0.5sec.

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

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

“ † y 270 r 5 - ž • y 10 r 1 sec.

Temp.:270±5 Time:10±1 sec

## G P á / Packaging SPEC.

ì ’ x / TUBE

| Package Type<br>7>û ˜ E | Units ;>û ¦H | | | | | Dimension ;>û p . (unit Æmm$^3$) | | |
|---|---|---|---|---|---|---|---|---|
| | 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-220FL | 50 | 20 | 1,000 | 5 | 5,000 | 532×33×7.0 | 555×164×50 | 575×290×180 |

## „ Ð y ƒ / Notices