

/ Descriptions

TO-220FL N

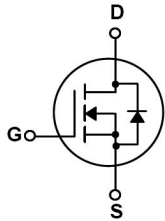
N-CHANNEL 650V Super-Junction Power MOSFET in a TO-220FL Plastic Package.

/ Features $R_{DS(on)} \times Q_g$ 100%

ROHS

Very low $R_{DS(on)} \times Q_g$, 100% avalanche tested, RoHS compliant, HF Product.**/ Applications**

For switch mode power supply, uninterruptible power supply, power factor correction.

/ Equivalent Circuit**/ Pinning**

PIN1 G

PIN 2 D

PIN 3 S

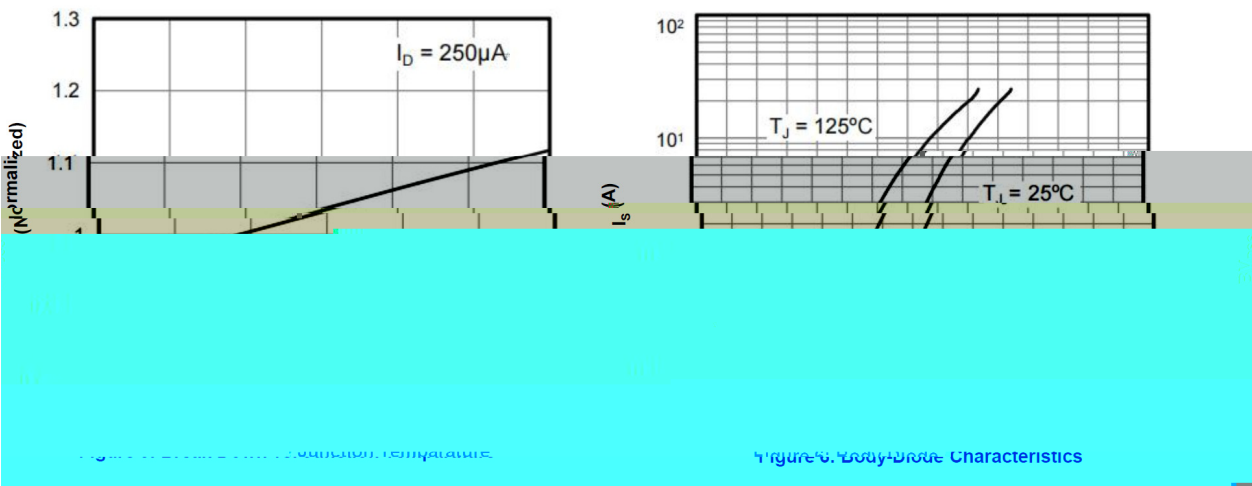
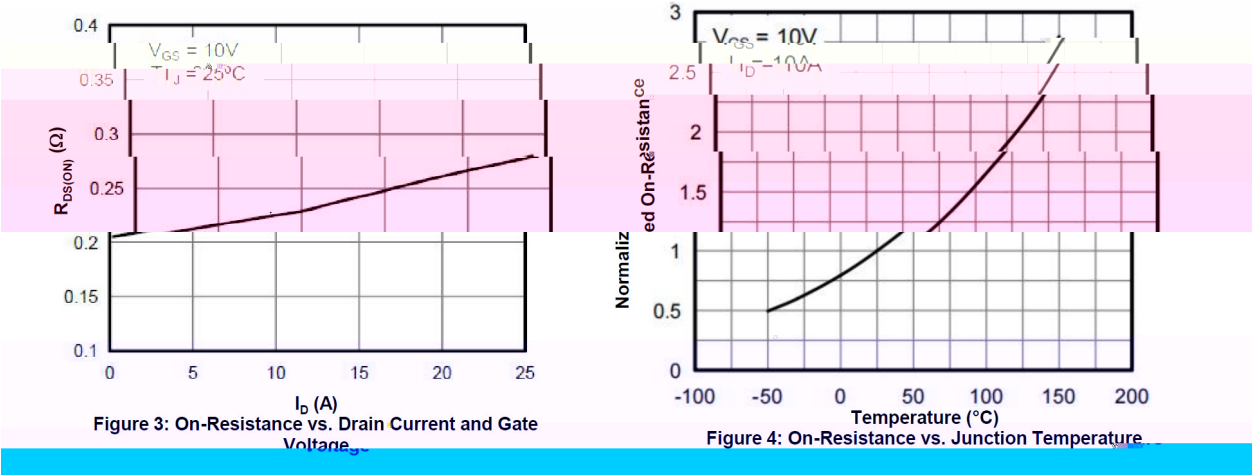
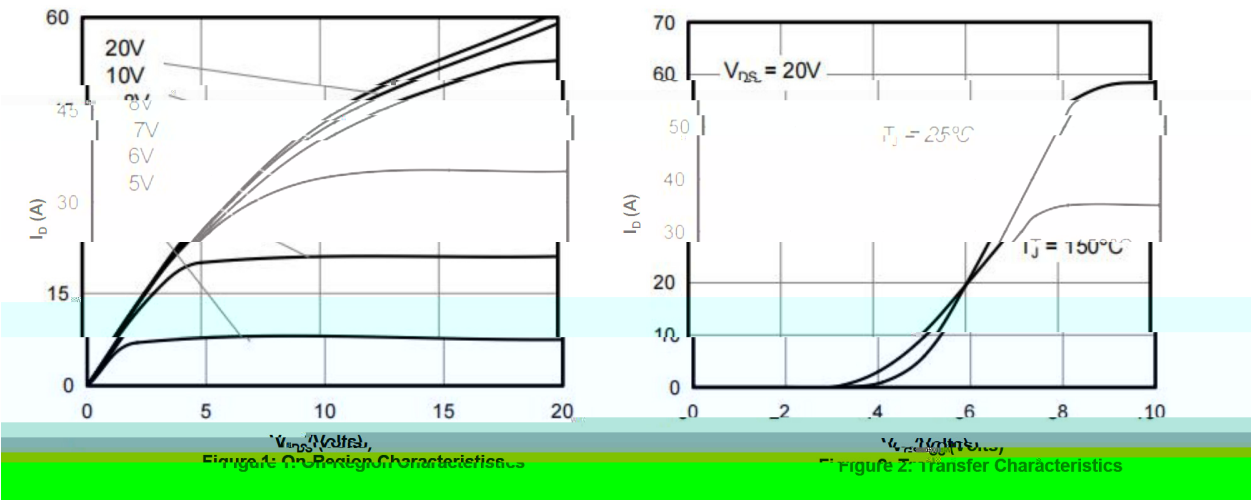
/ Marking

See Marking Instructions.

/ Electrical Characteristics(Ta=25 –)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Diode Forward Current	I_S			20		A
Total Gate Charge	Q_g	$V_{DS}=480V \quad I_D=10A$ $V_{GS}=10V$		38.2		nC
Gate-Source Charge	Q_{gs}			10		nC
Gate-Drain Charge	Q_{gd}			13		nC
Reverse recovery time	t_{rr}	$V_R=400V, \quad I_F=10A,$ $dI_F/dt=100A/\mu s$		340		ns
Reverse recovery charge	Q_{rr}			6.7		uC

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

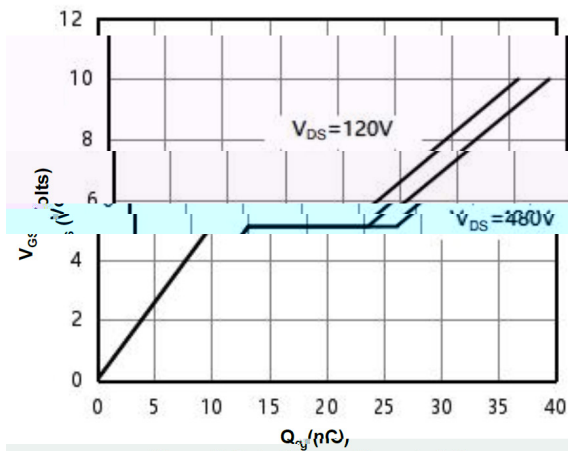


Figure 7: Gate-Charge Characteristics

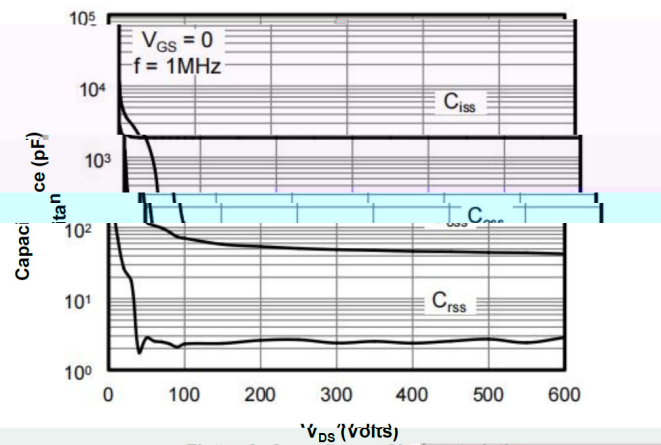


Figure 8: Capacitance Characteristics

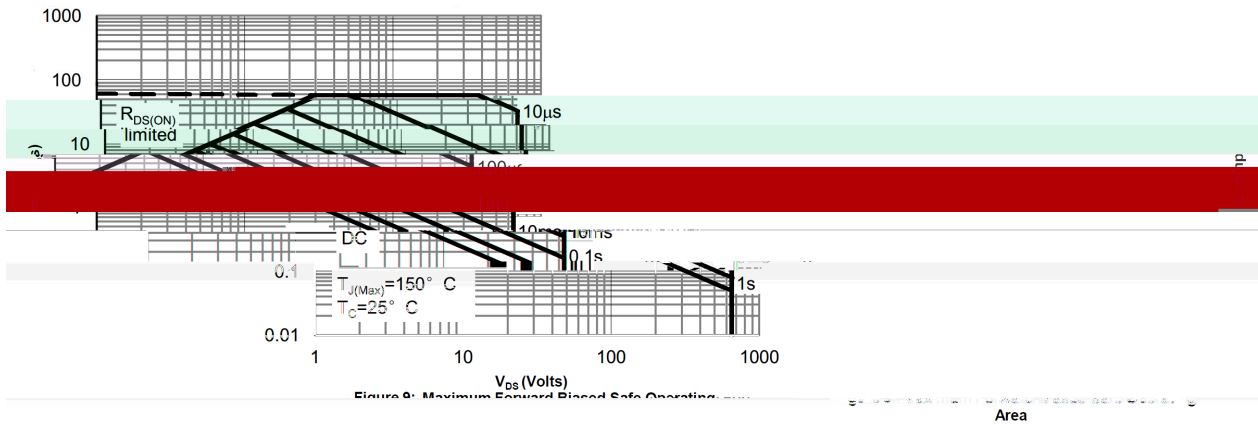


Figure 9: Maximum Forward Biased Safe Operating

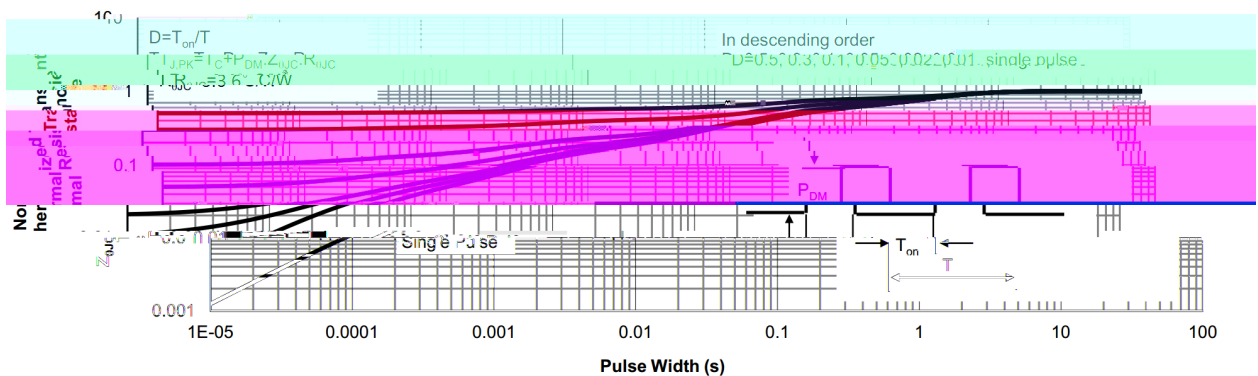
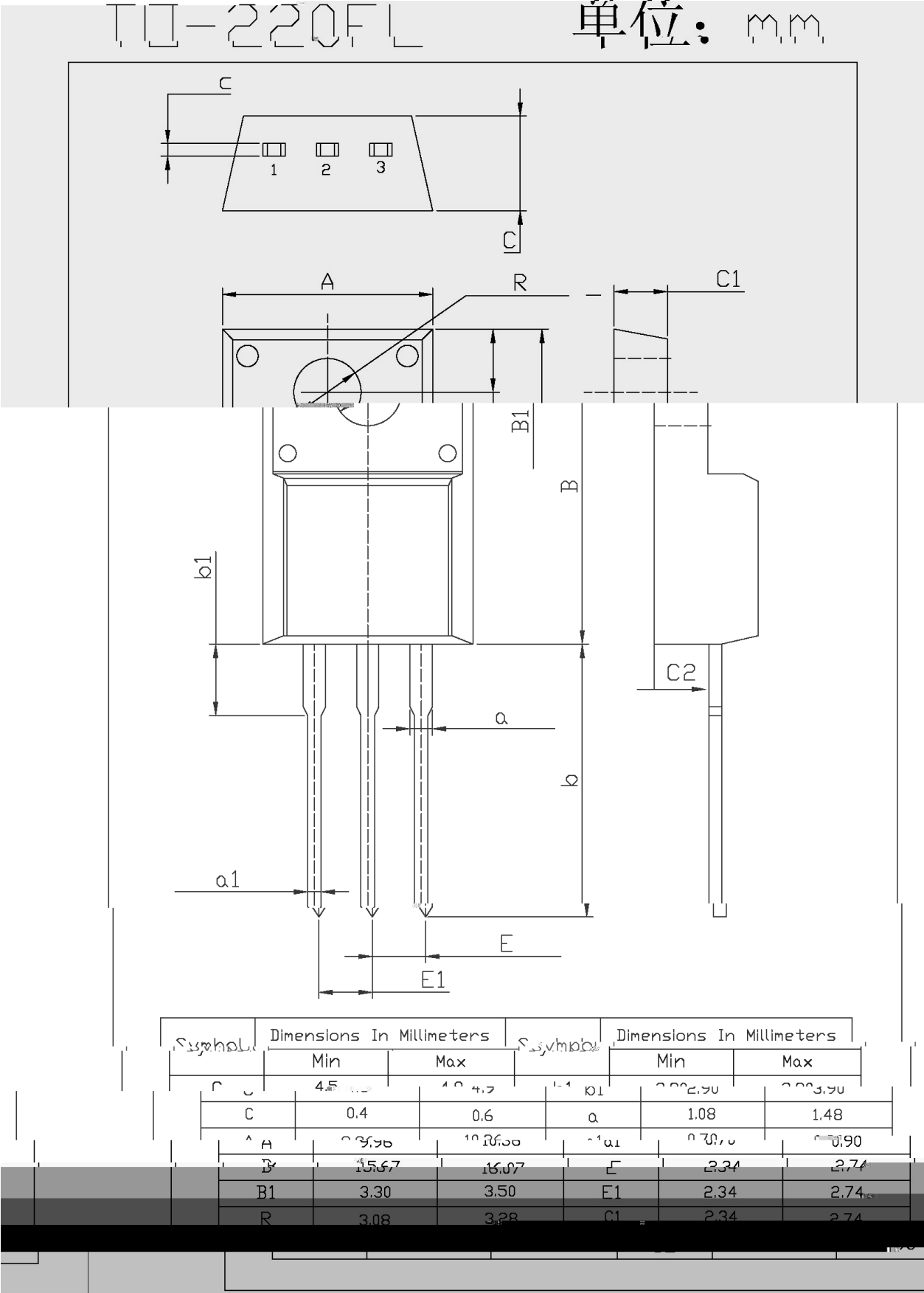
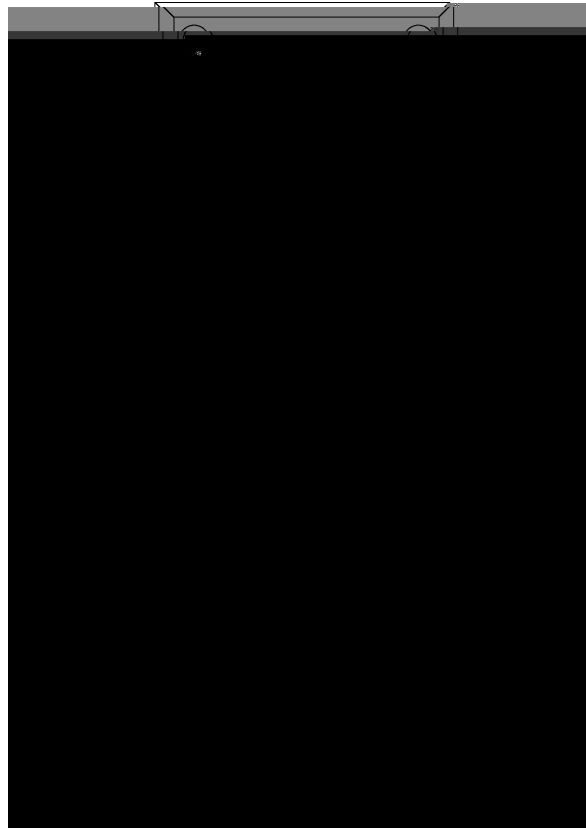


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions



/ Marking Instructions



BR

65R190C

Note:

BR: Company Code

65R190C: Product Type Code

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

() / Temperature Profile for Dip Soldering(Pb-Free)

- 1

25 150

60 90sec;
- 2

255 5

5 0.5sec;
- 3

2 10

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

/ Resistance to Soldering Heat Test Conditions

270 5 10 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ TUBE