

/ Descriptions

TO-220FL N MOS N-CHANNEL MOSFET in a TO-220FL Plastic Package.

/ Features

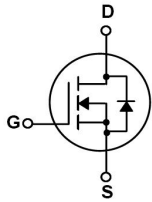
$R_{DS(on)}$ C_{rss}
 Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching.

/ Applications

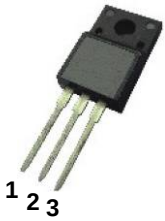
D

Automotive DC Motor Control and Class D Amplifier.

/ Equivalent Circuit



/ Pinning



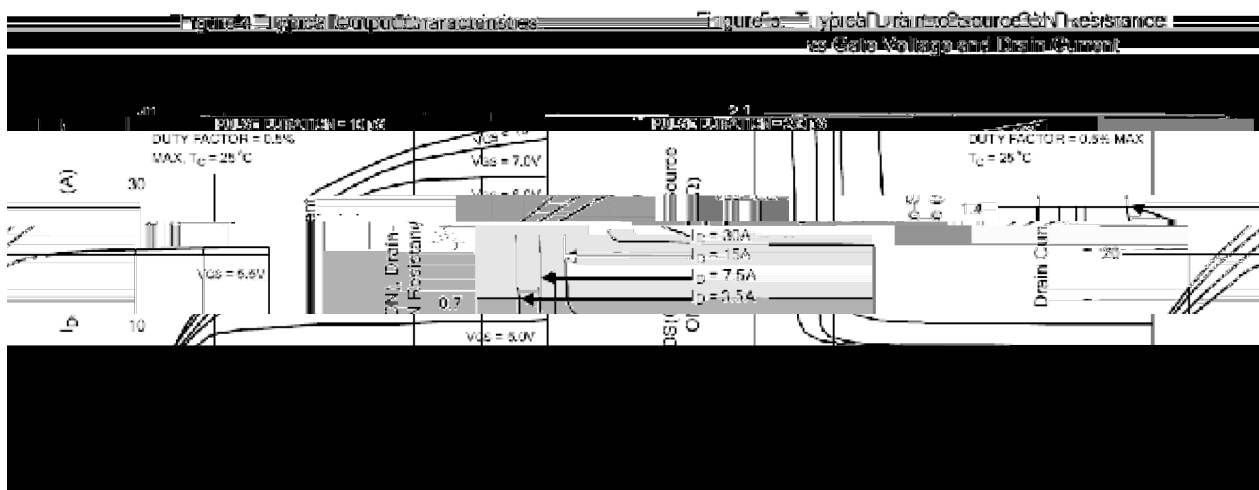
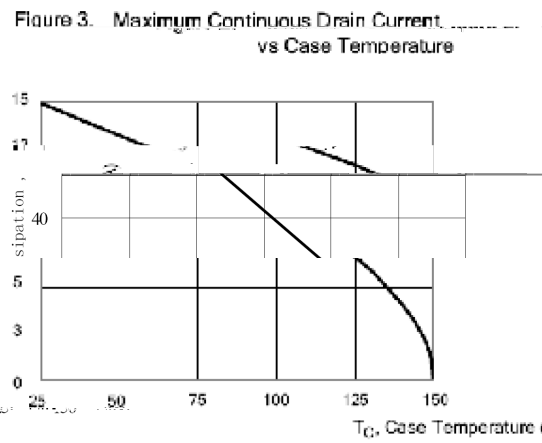
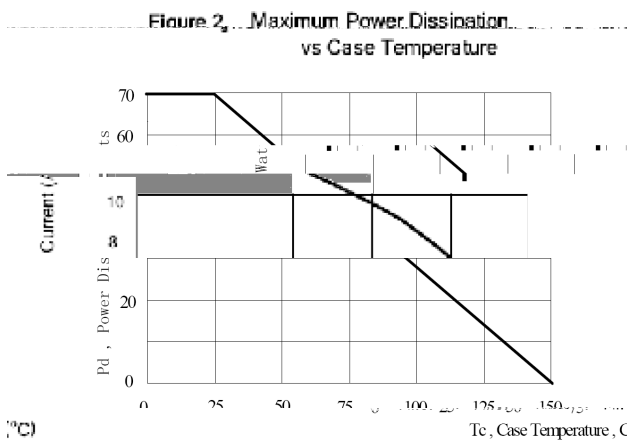
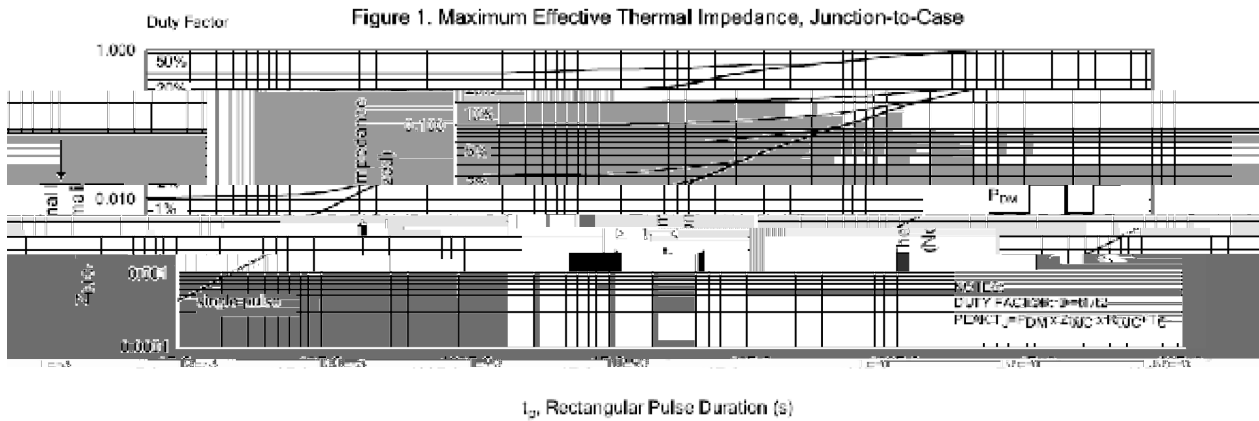
PIN1 G PIN 2 D PIN 3 S

/ Classifications & Marking

See Marking Instructions.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics						
Forward Transconductance	g_{fs}	$V_{DS}=15V, I_D =7.5A$		18		S
Input Capacitance	C_{iss}	$V_{GS}=0V \quad V_{DS} = 25V$ $f = 1.0MHz$		2400		pF
Output Capacitance	C_{oss}			235		
Reverse Transfer Capacitance	C_{rss}			25.5		
Resistive Switching Characteristics						
Turn-on Delay Time	$t_{d(ON)}$	$I_D=15A \quad V_{DD} =250V$ $V_{GS}=10V \quad R_G=6.1\Omega$		15		ns
Rise Time	t_r			30		
Turn-Off Delay Time	$t_{d(OFF)}$			50		
Fall Time	t					

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

Figure 6. Maximum Peak Current Capability

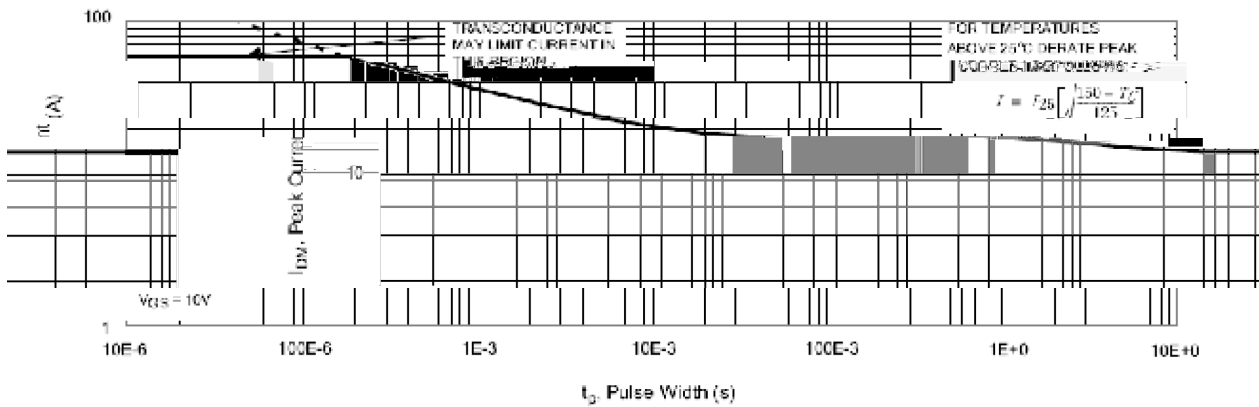


Figure 7. Typical Transfer Characteristics

Figure 8. Unclamped Inductive Switching Capability

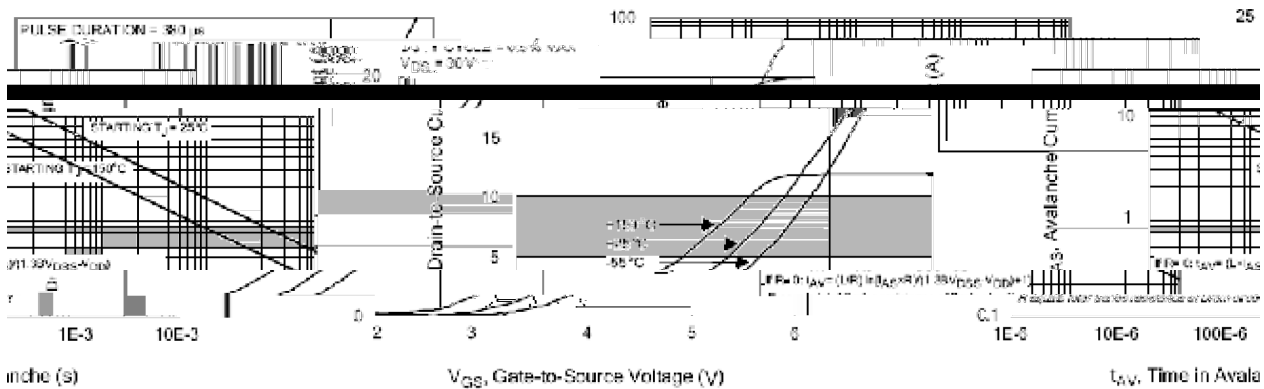
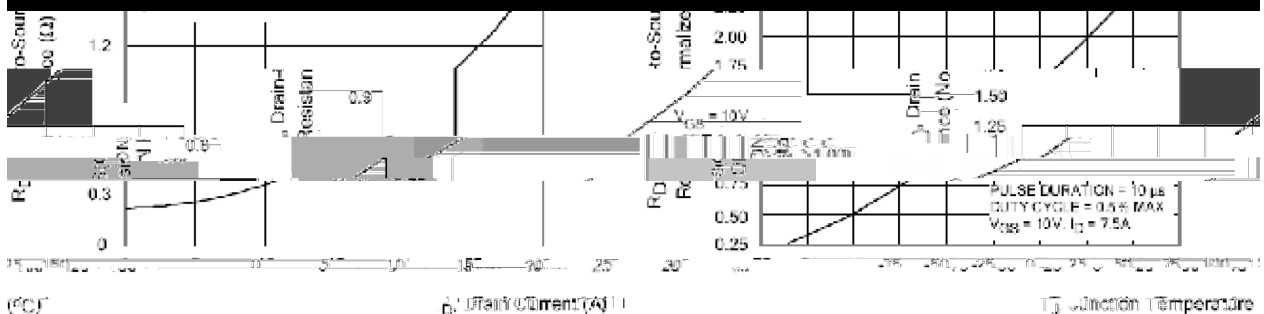


Figure 9. Typical Drain-to-Source ON Resistance

Figure 10. Typical Drain-to-Source ON Resistance



/ Electrical Characteristic Curve

Figure 11. Typical Breakdown Voltage vs Junction Temperature

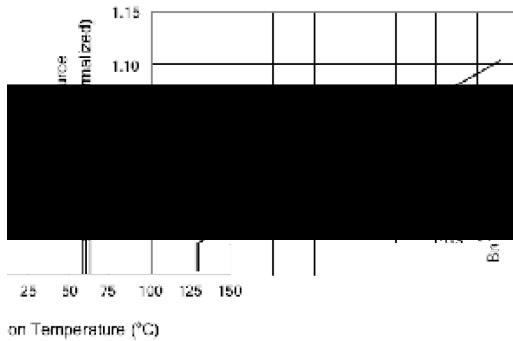
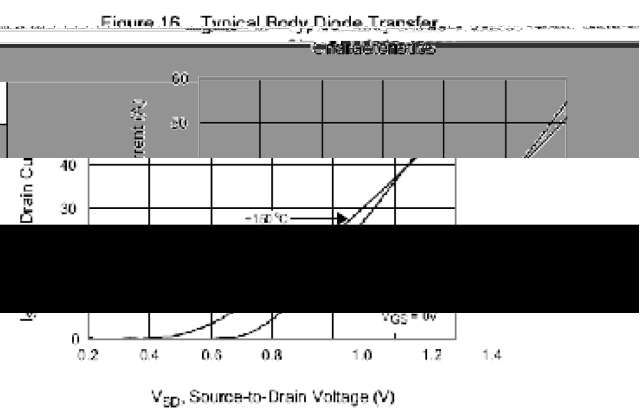
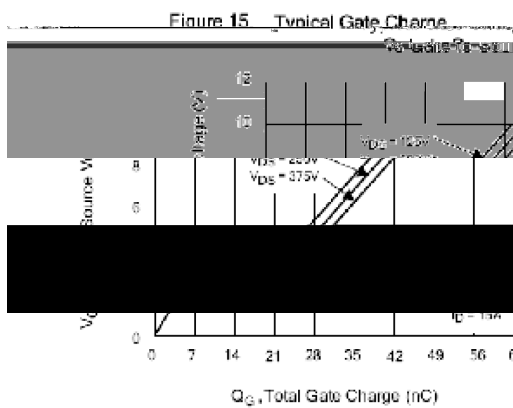
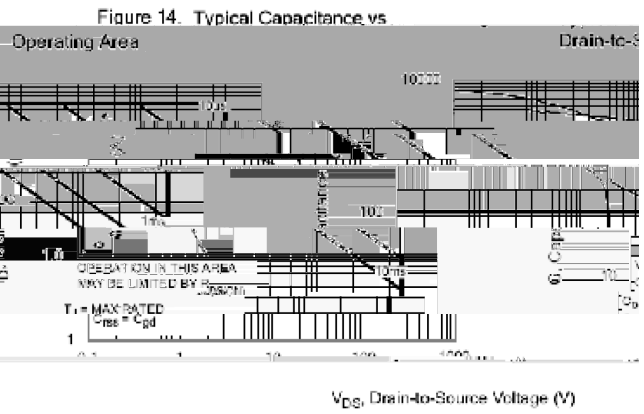
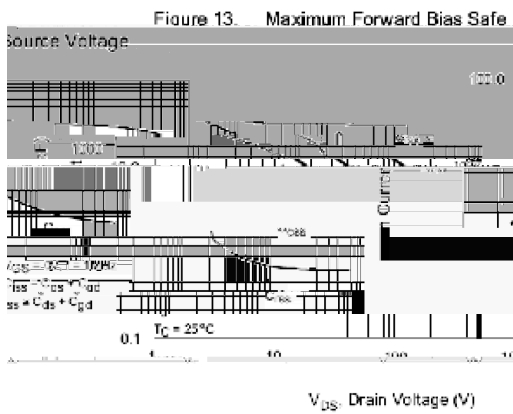
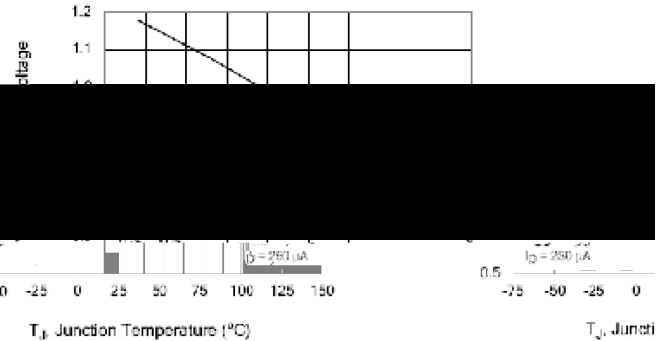
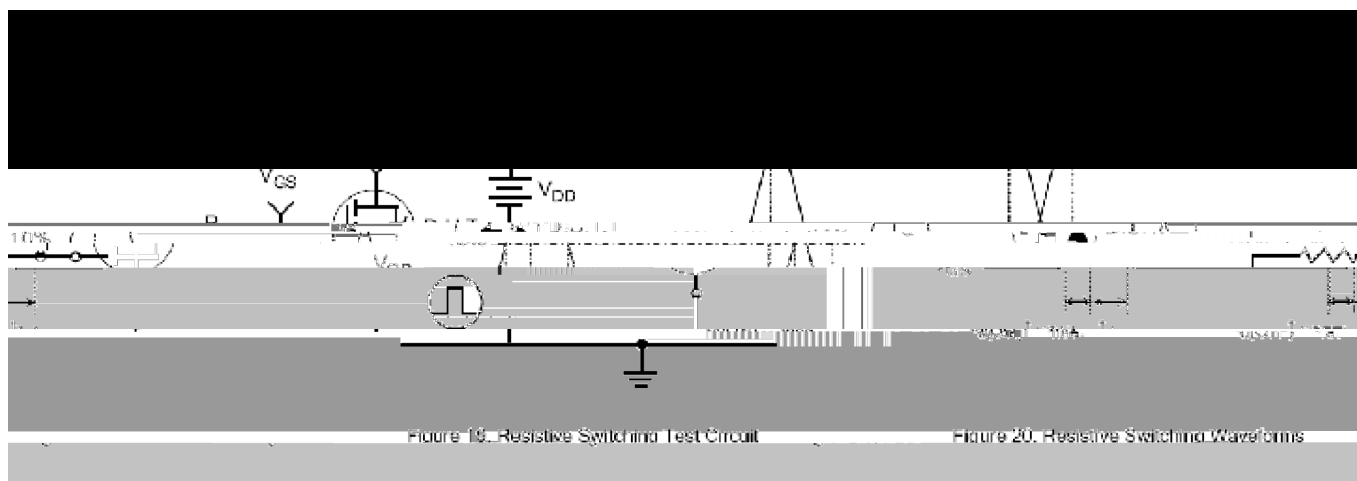
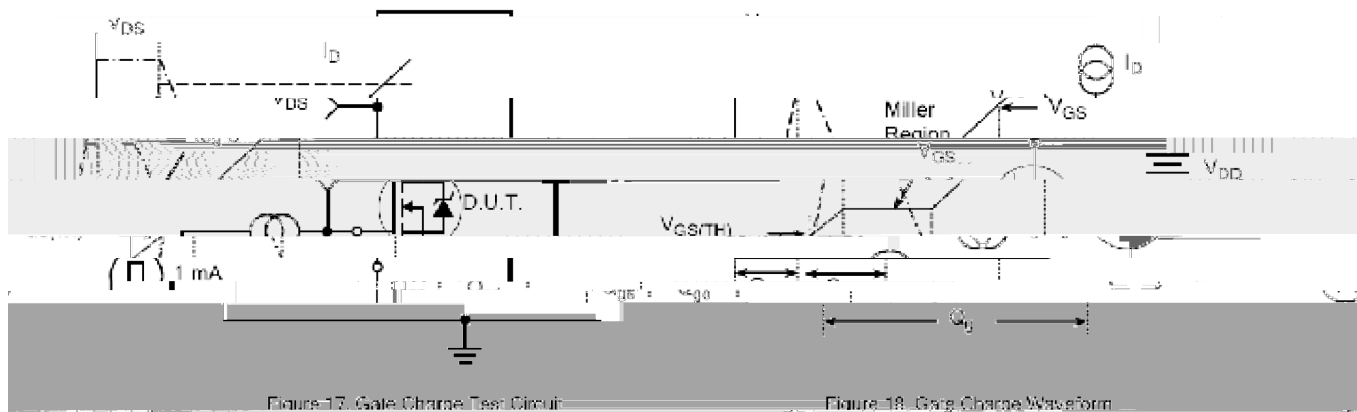


Figure 12. Typical Threshold Voltage vs Junction Temperature



/ Test Circuit and Waveform



/ Test Circuit and Waveform

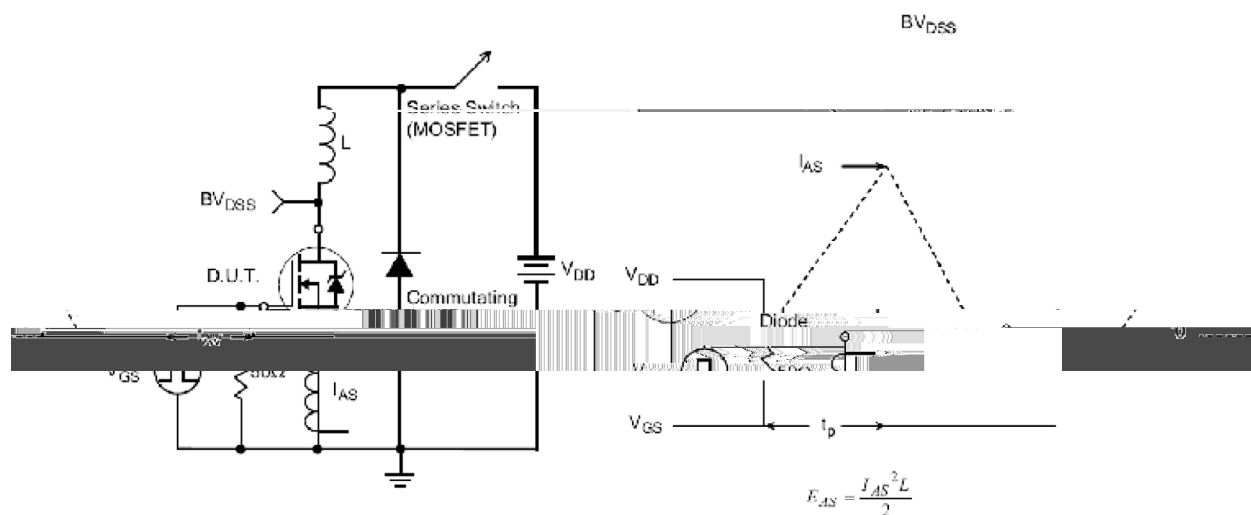
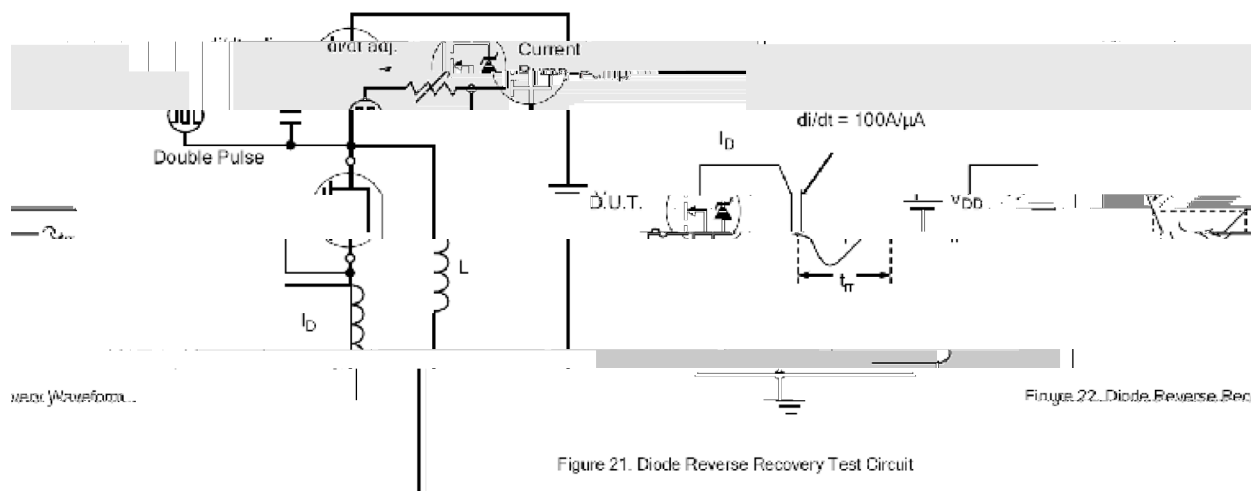
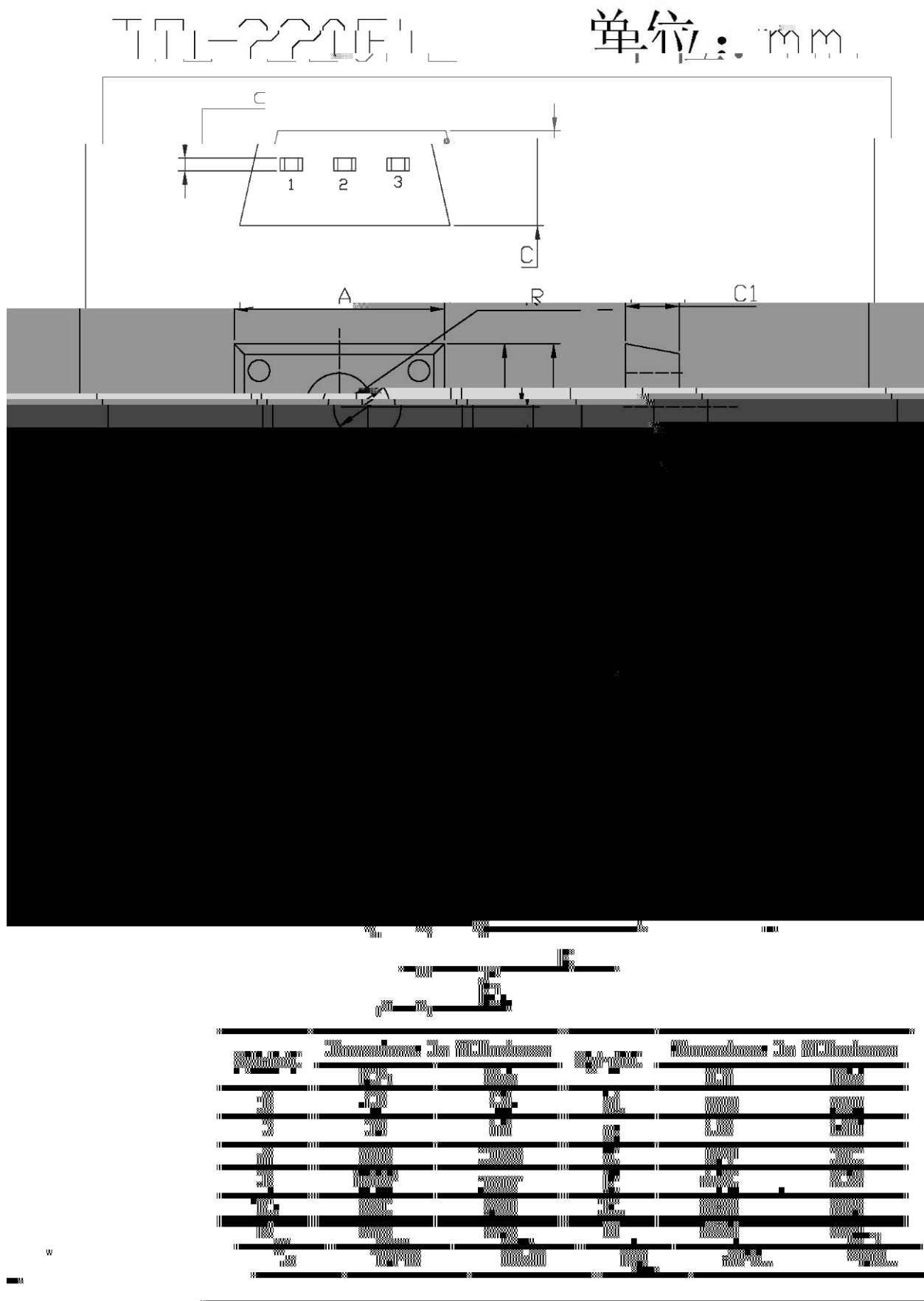
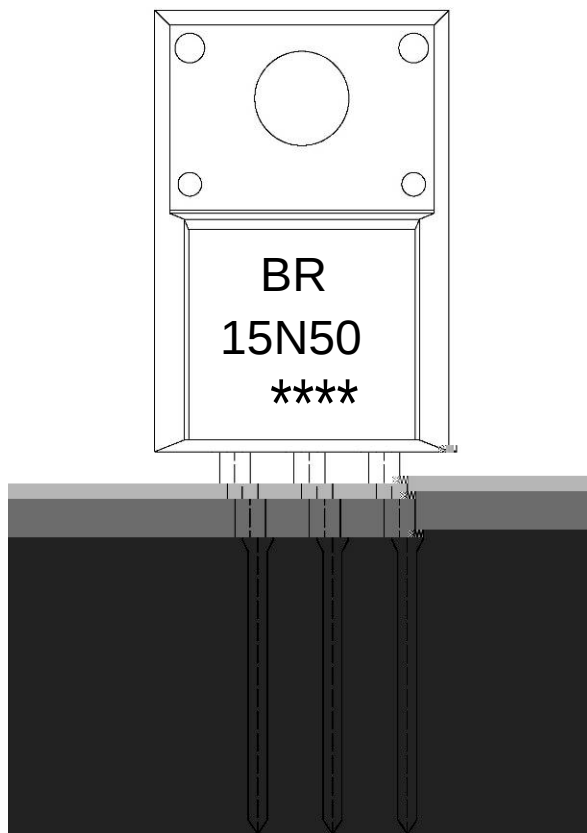


Figure 24. Unclamped Inductive Switching Waveforms

/ Package Dimensions



/ Marking Instructions



BR

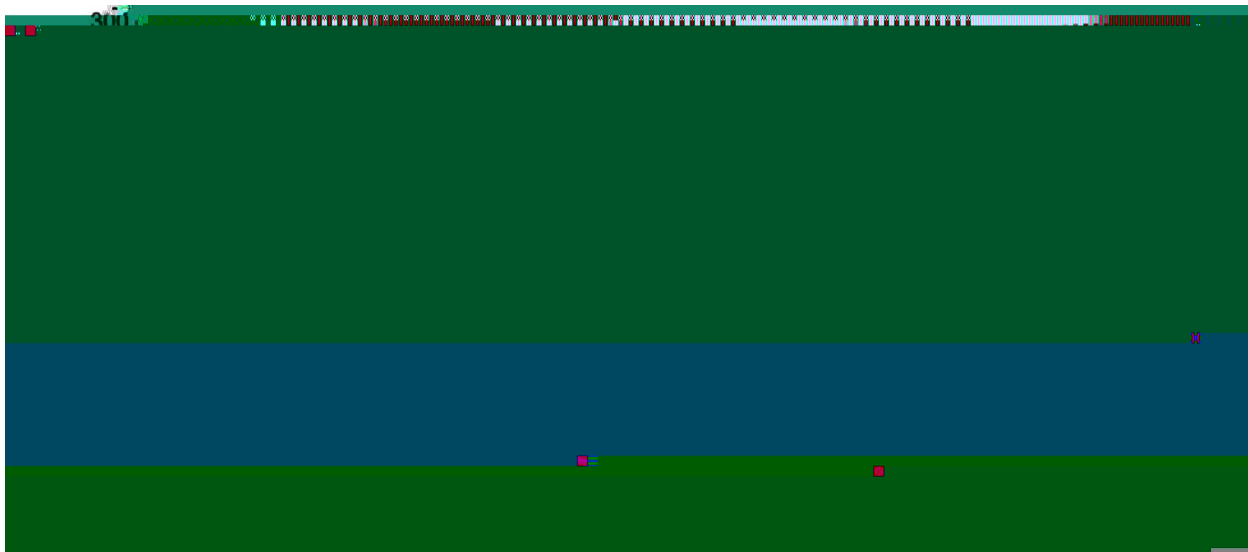
15N50

Note:

BR: Company Code

15N50: Product Type.

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


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


Note:

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

/ Resistance to Soldering Heat Test Conditions

270±5	10±1 sec.	Temp.:270±5℃	Time:10±1 sec
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/ Packaging SPEC.
/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220FL	50	20	1,000	5	5,000	532×33×7.0	555×164×50	575×290×180

/ Notices