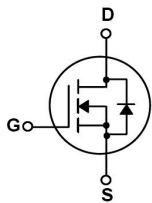


Rev.A Sep.-2017

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

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

D  
Automotive DC Motor Control and Class D Amplifier.

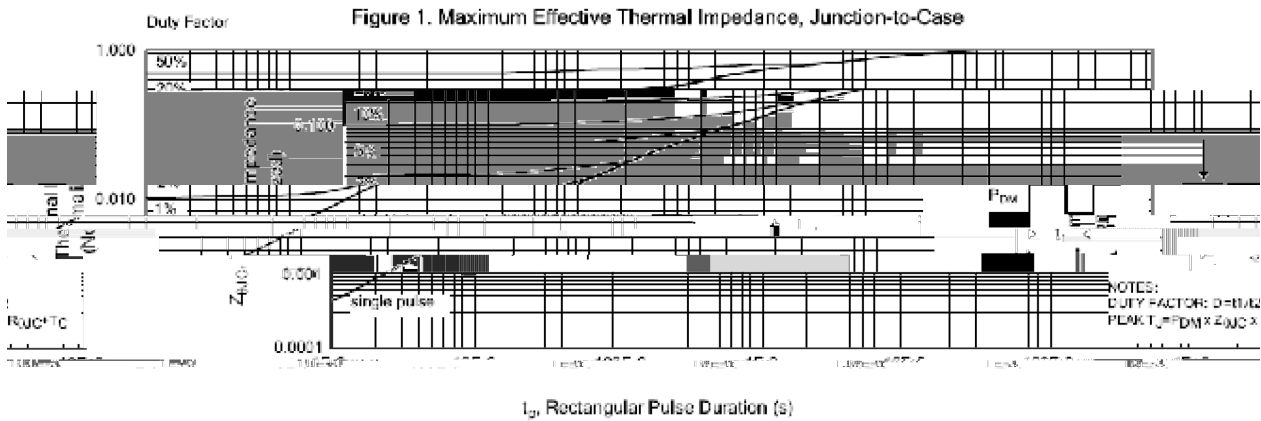


PIN 1 G      PIN 2 D      PIN 3 S

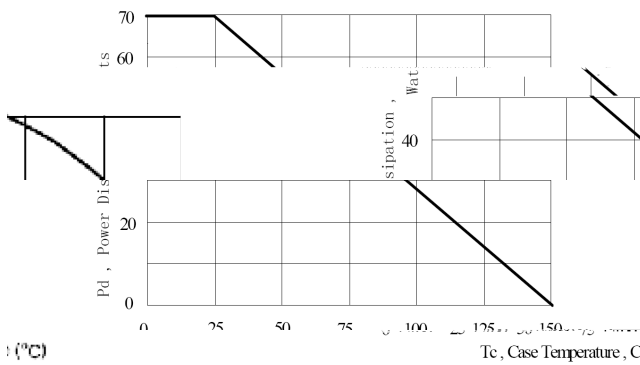
See Marking Instructions.



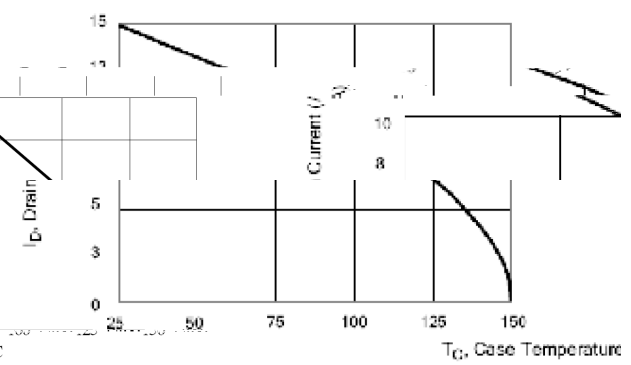
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics						
Forward Transconductance	$g_{fs}$	$V_{DS}=15V, I_D=7.5A$		18		S
Input Capacitance	$C_{iss}$	$V_{GS}=0V \quad V_{DS} = 25V$ $f = 1.0MHz$		2400		pF
Output Capacitance	$C_{oss}$			235		
Reverse Transfer Capacitance	$C_{rss}$			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	$t_{25.5}$					



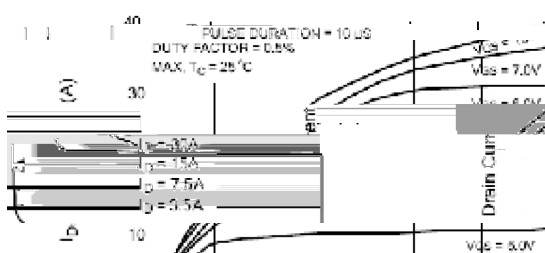
**Figure 2. Maximum Power Dissipation vs Case Temperature**



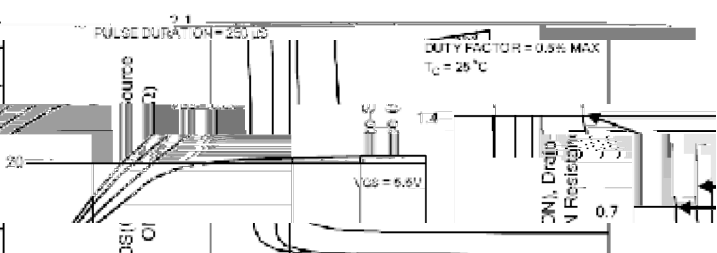
**Figure 3. Maximum Continuous Drain Current vs Case Temperature**

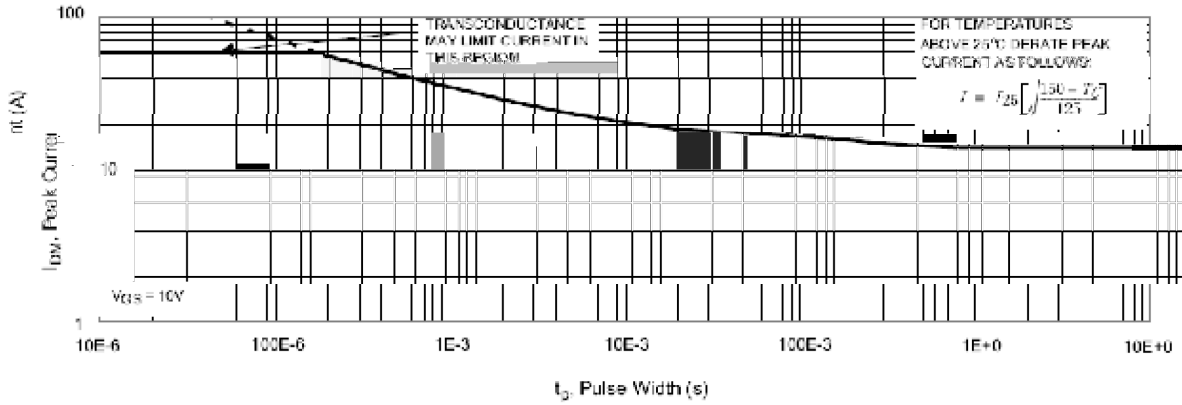
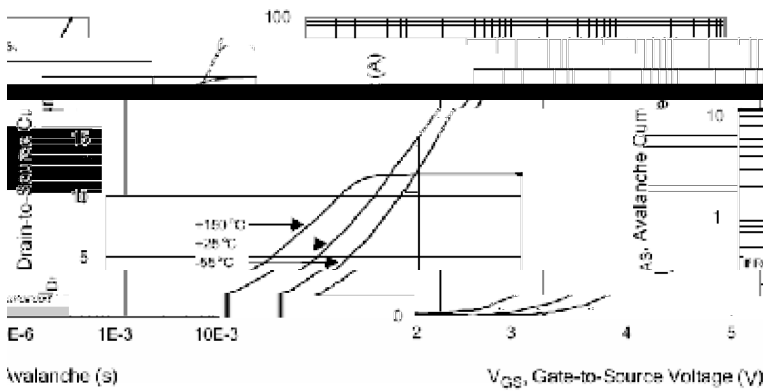
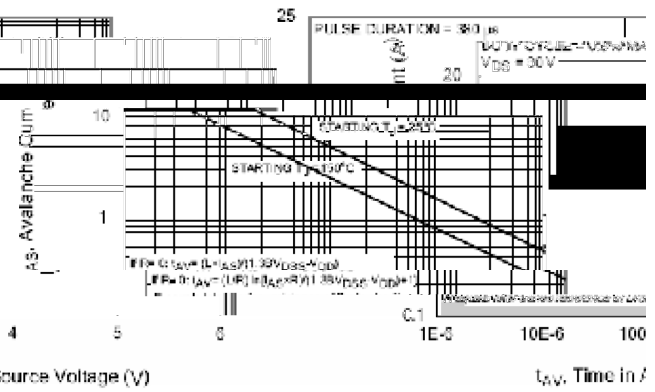
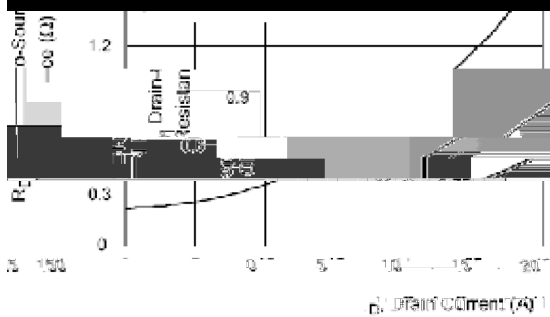
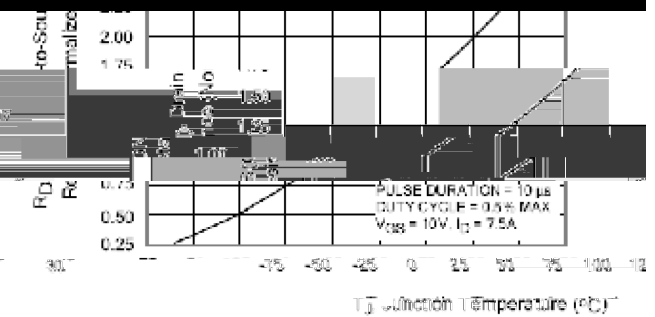


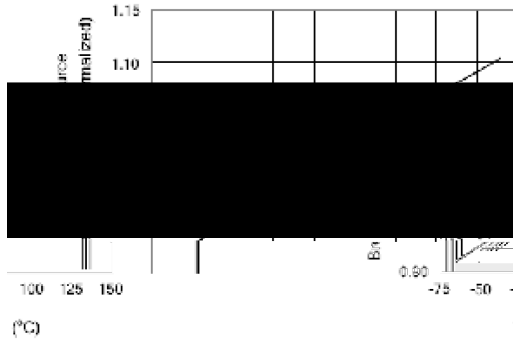
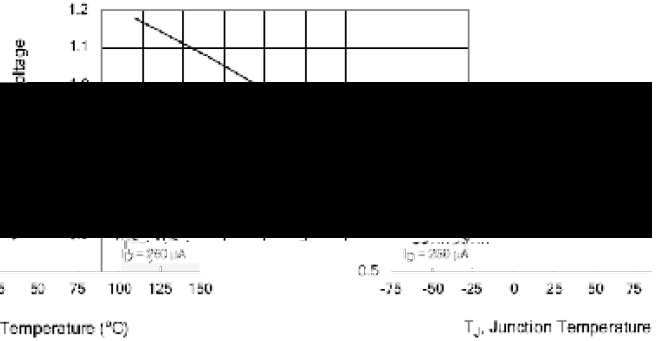
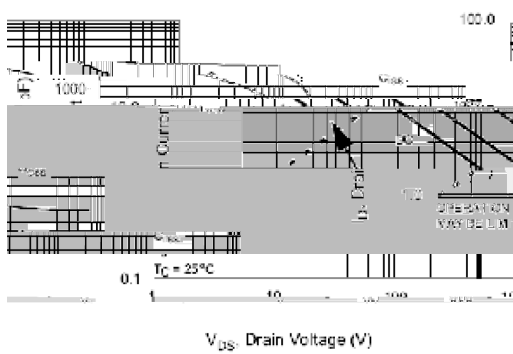
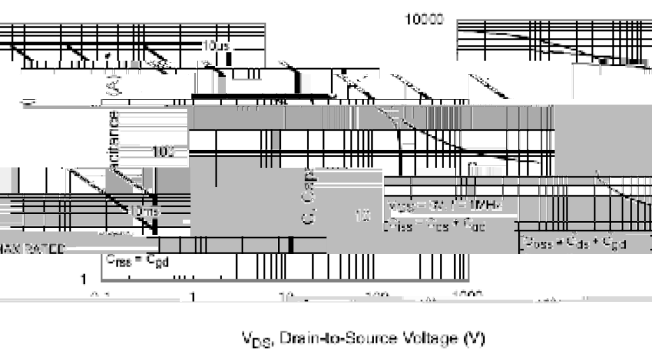
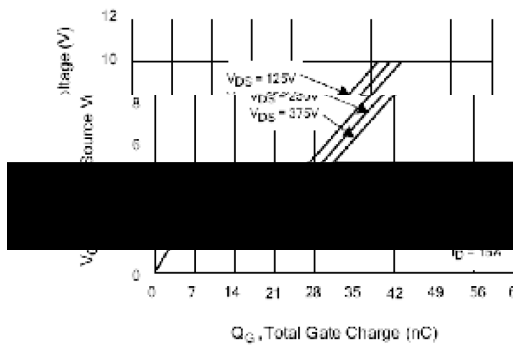
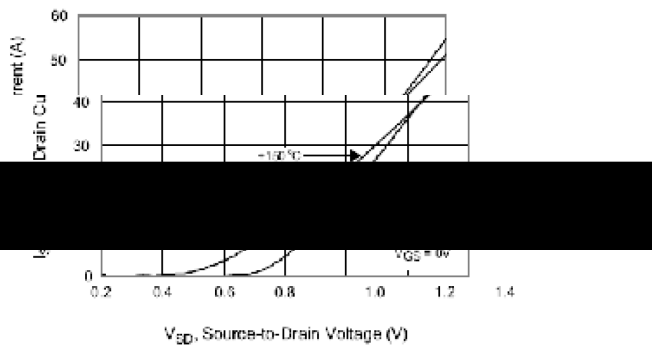
**Figure 4. Typical Output Characteristics**

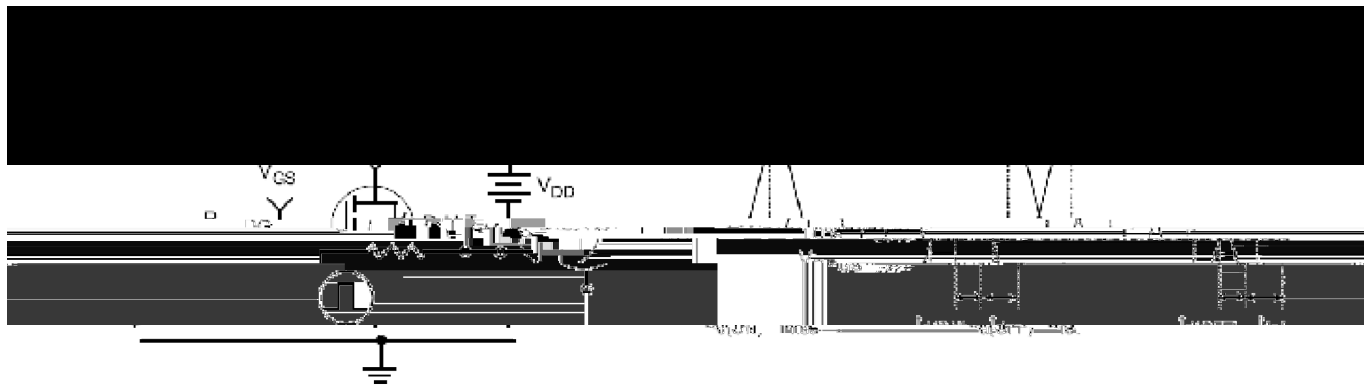
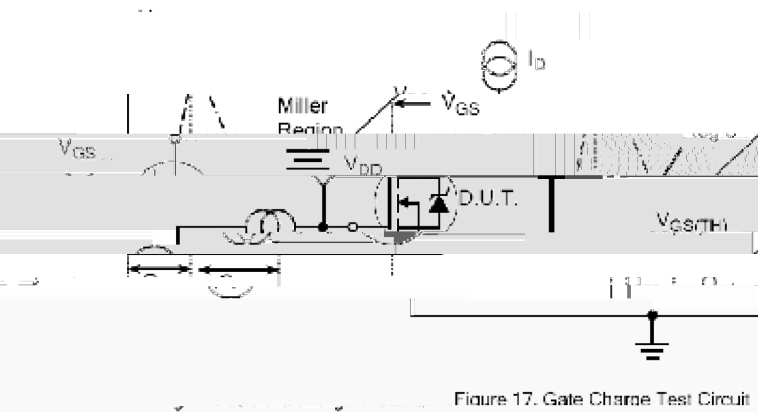
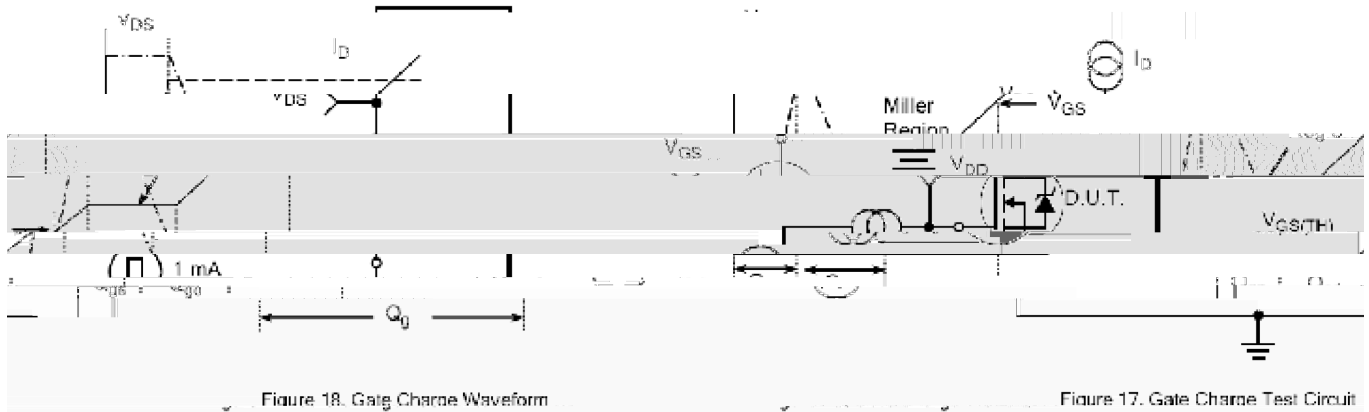


**Figure 5. Typical Drain-to-Source On Resistance vs Gate Voltage and Drain Current**



**Figure 6. Maximum Peak Current Capability**

**Figure 7. Typical Transfer Characteristics Switching Capability**

**Figure 8. Unclamped Inductive**

**Figure 9. Typical Drain to Source ON**

**Figure 10. Typical Drain to Source ON Resistance**


**Figure 11. Typical Breakdown Voltage vs Junction Temperature**

**Figure 12. Typical Threshold Voltage vs Junction Temperature**

**Figure 13. Maximum Forward Bias Safe Operating Area**

**Figure 14. Typical Capacitance vs Drain-to-Source Voltage**

**Figure 15. Typical Gate Charge vs Gate-to-Source Voltage**

**Figure 16. Typical Body Diode Transfer Characteristics**




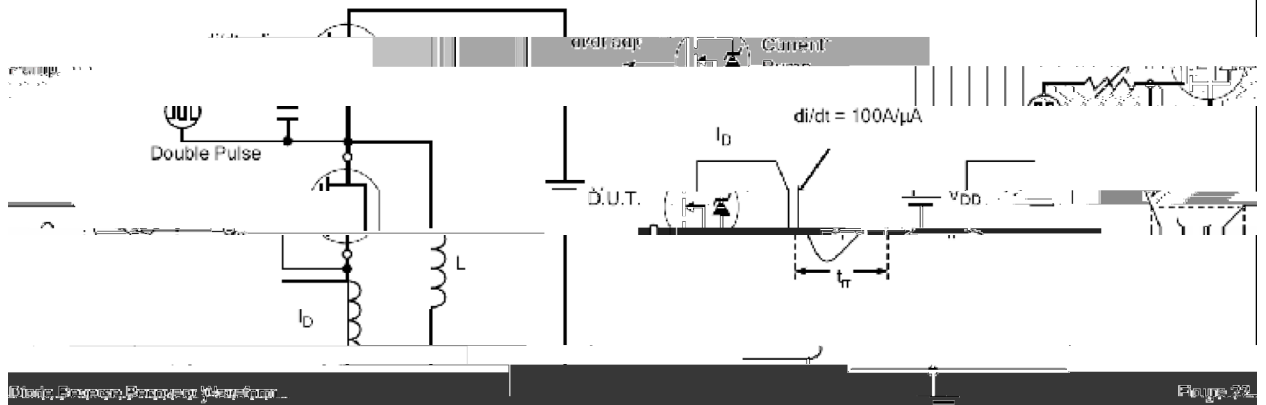


Figure 21. Base Reverse Recovery Test Circuit

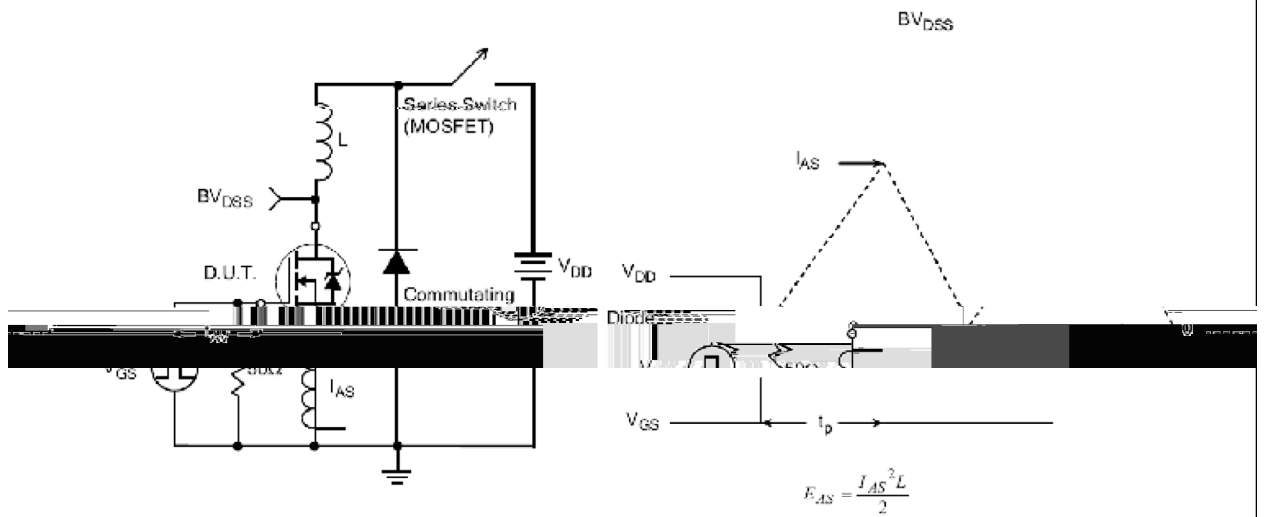
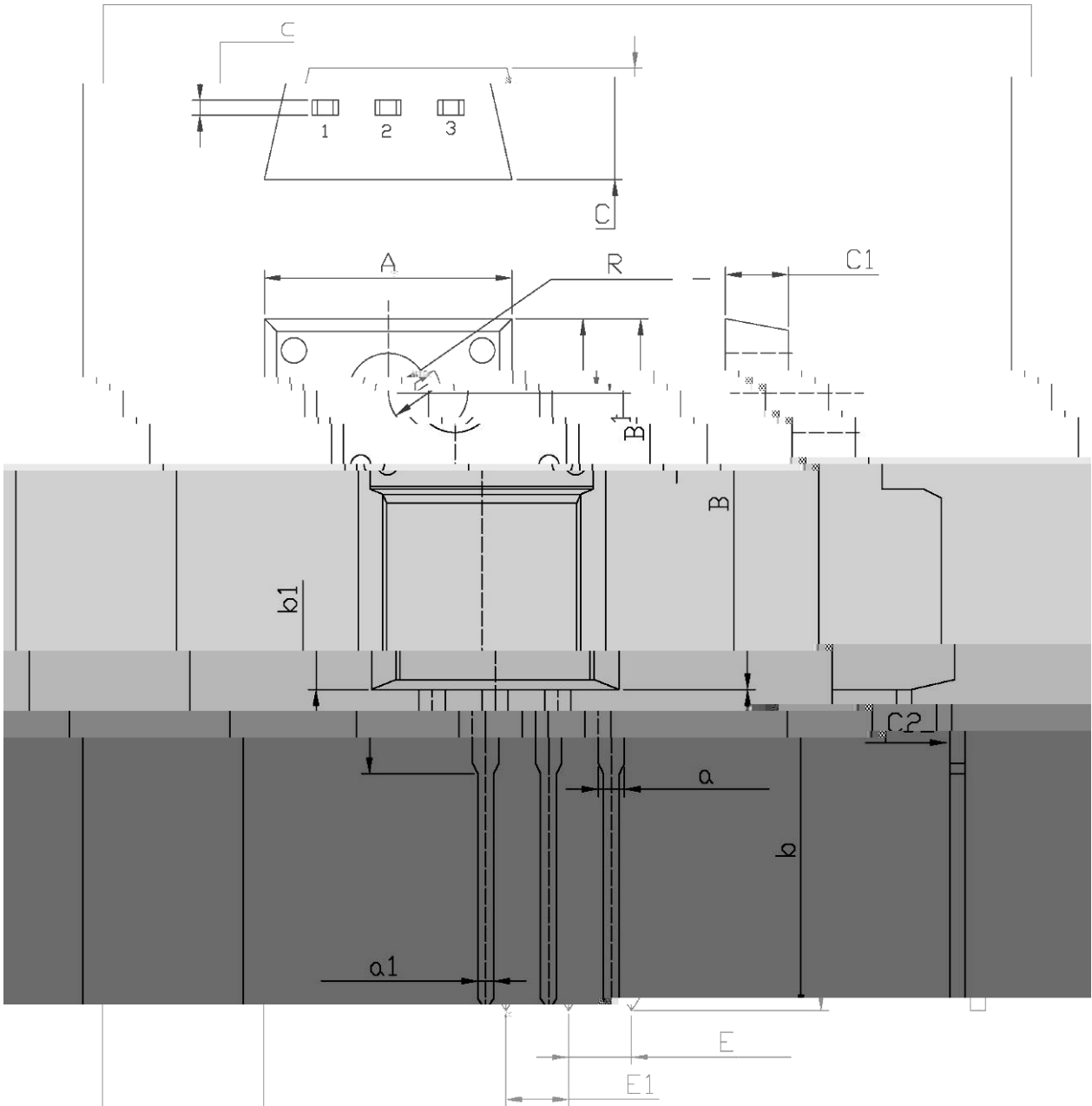


Figure 23. Unclamped Inductive Switching Test Circuit

Figure 24. Unclamped Inductive Switching Waveforms

T.N-220F1

单位: mm



~s

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeter	
	Min	Max		Min	Max
C	4.5	4.9	b1	2.90	3.90
C	0.4	0.6	a	1.08	1.48
A	9.96	10.36	a1	0.70	0.90
B	15.67	16.07	E	2.34	2.74
B1	3.30	3.50	E1	2.34	2.74
R	3.08	3.28	C1	2.34	2.74
b	12.48	13.48	C2	2.56	2.96



BR

15N50

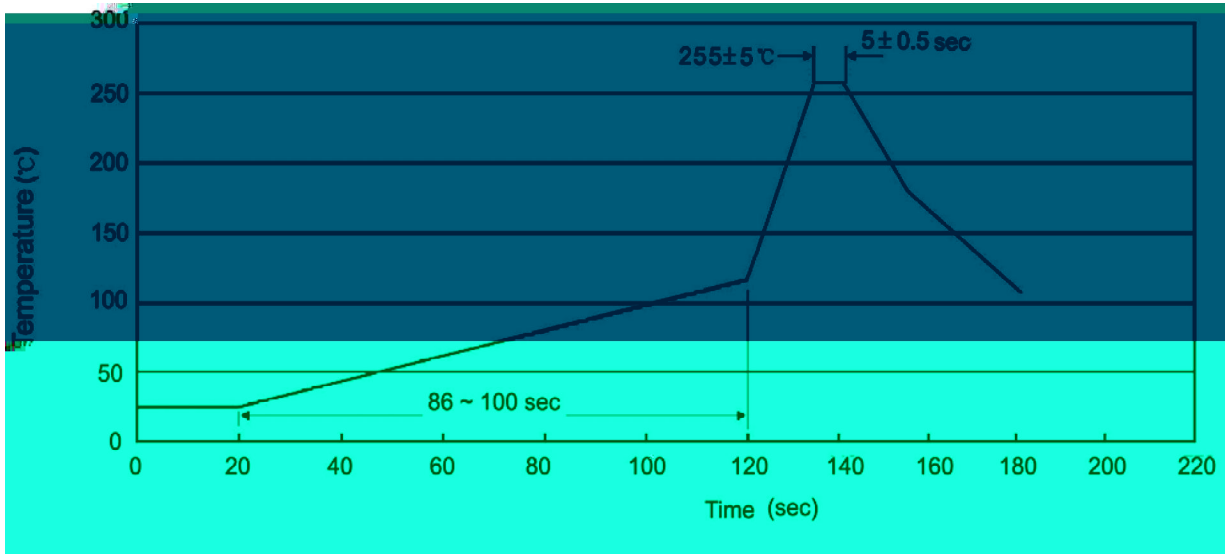
\*\*\*\*

Note:

BR: Company Code

15N50: Product Type.

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


**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.             |

270±5

10± 1 sec.

Temp.:270±5°C

Time:10±1 sec

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	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