

# BRFL70R360C

Rev.A Oct.-2023

TO-220FL          N          700V

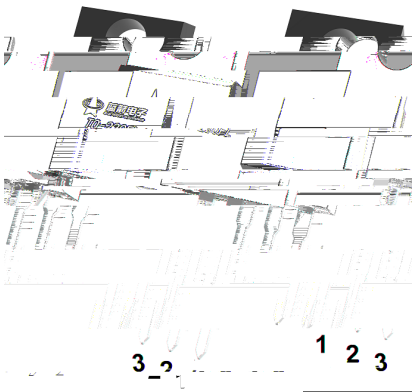
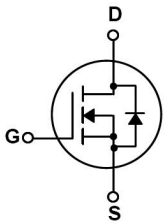
N-CHANNEL 700V Super-Junction Power MOSFET in a TO-220FL Plastic Package.

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

ROHS

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

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



PIN1 G

PIN 2 D

PIN 3 S

## / Marking

W

## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	700	V
Drain Current	$I_D(T_C=25)$	12	A
Drain Current - Pulsed	$I_{DM}$	44	A
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Single Pulsed Avalanche Energy	$E_{AS}$	277	mJ
Avalanche Current	$I_{AS}$	8	A
Power Dissipation	$P_D(T_C=25)$	27	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	
Junction-to-Case	$R_{JC}$	4.6	/W
Junction-to-Ambient	$R_{JA}$	65	/W

## / Electrical Characteristics(Ta=25 )

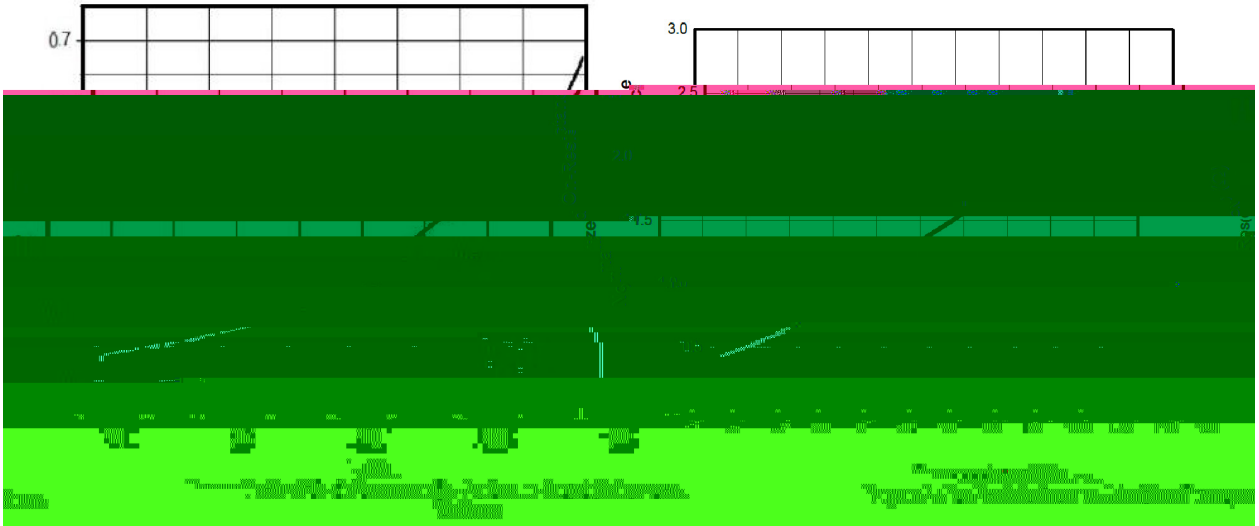
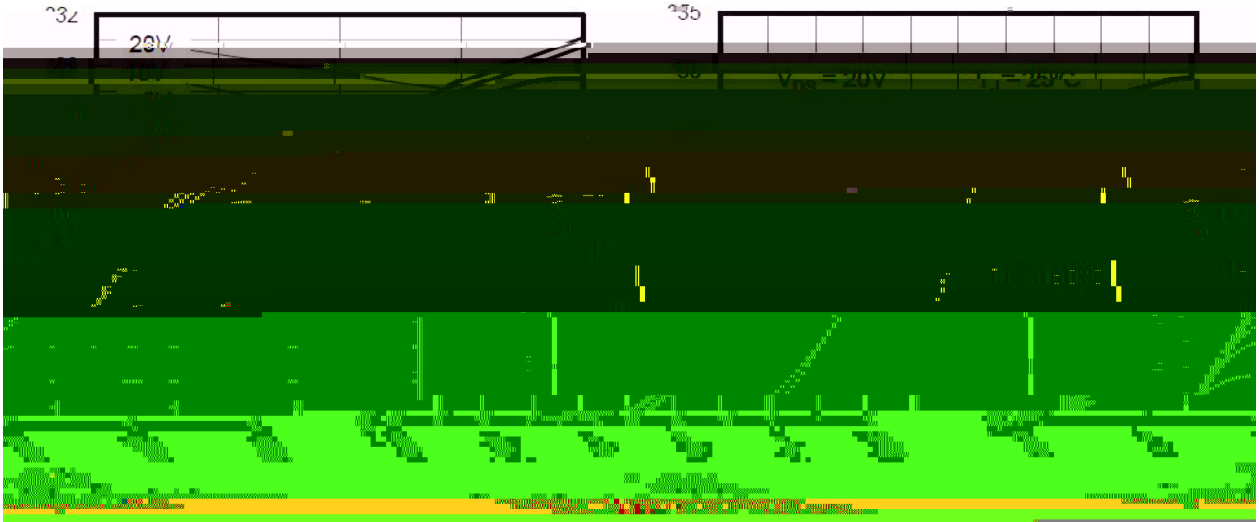
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250$ A	700	735		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=700V$ $V_{GS}=0V$ $T_J=25$			1.0	A
Gate-Body Leakage Current, Forward	$I_{GSS}$	$V_{GS}=\pm 30V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250$ A	2.5	3.3	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=6A$		300	360	m
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_{SD}=12A$ $T_J=25$			1.2	V
Gate Resistance	$R_g$	$V_{GS}=0V$ $f=1.0MHz$		4.1		
Input Capacitance	$C_{iss}$	$V_{DS}=100V$ $V_{GS}=0V$ $f=1.0MHz$		735		pF
Output Capacitance	$C_{oss}$			35		pF
Reverse Transfer Capacitance	$C_{rss}$			0.45		pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=465V$ $I_D=6.0A$ $R_G=25$ $V_{GS}=10V$		16.3		ns
Turn-On Rise Time	$t_r$			35		ns
Turn-Off Delay Time	$t_{d(off)}$			78		ns
Turn-Off Fall Time	$t_f$			39.5		ns

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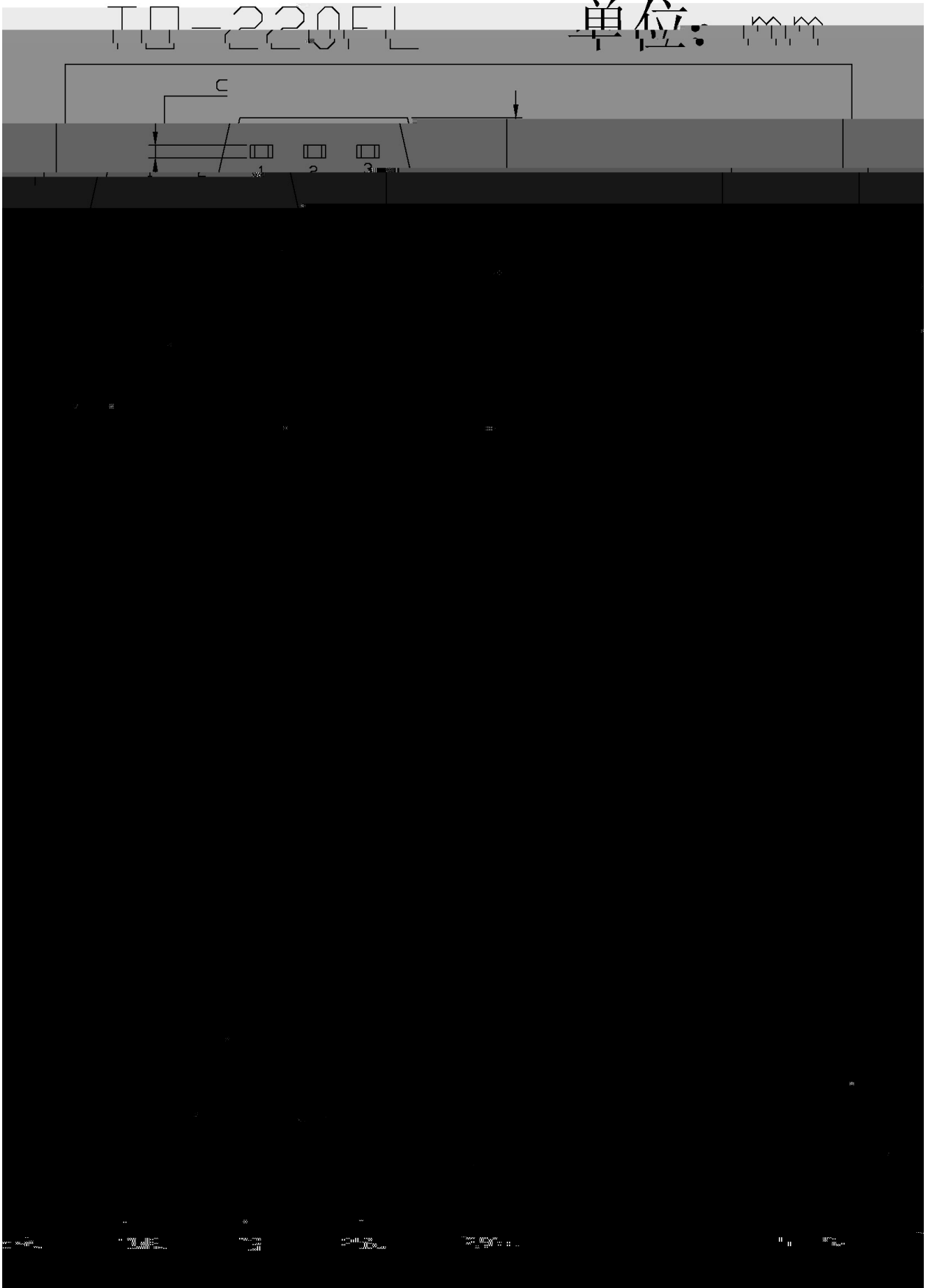
**DATA SHEET**

/ Electrical Characteristic Curve

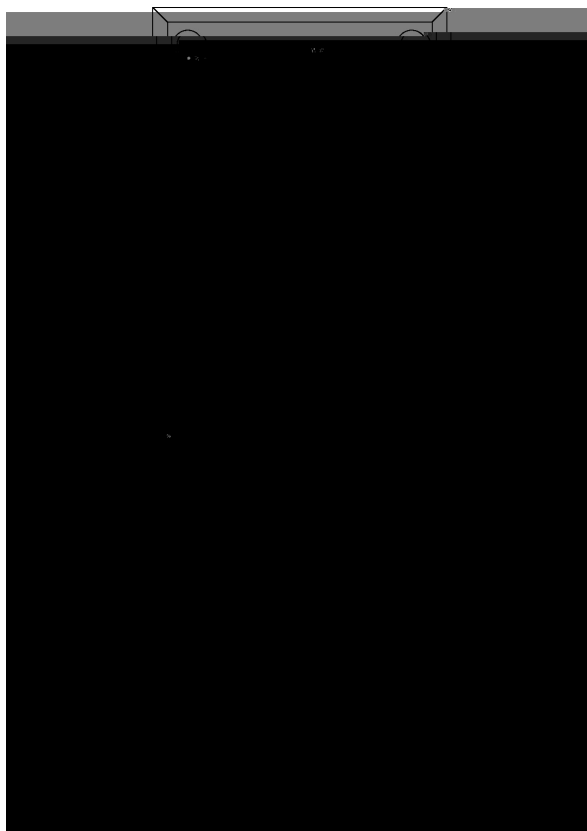


**BRFL70R360C**

/ Package Dimensions



**/ Marking Instructions**



BR

70R360C

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Note:

BR: Company Code

70R360C: Product Type Code

\*\*\*\*: 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±0.5 | sec;     | 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.