/ Descriptions

TO-220 ṂṂ Ḷ N ږ MOS ʃ ѿ Ẓ ٦ N-CHANNEL MOSFET in a TO-220 Plastic Package.

/ Features

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Fast switching, low on resistance, low gate charge, low reverse transfer capacitances.

/ Applications

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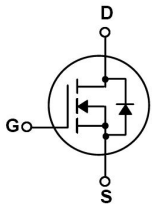
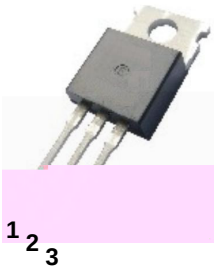
Used in various power switching circuit for system miniaturization and higher efficiency.

/ Equivalent Circuit



/ Pinning



PIN1 χ G PIN 2 χ D PIN 3 χ S

/ h_{FE} Classifications & Marking

 δ м ٦ ب ˝ See Marking Instructions.

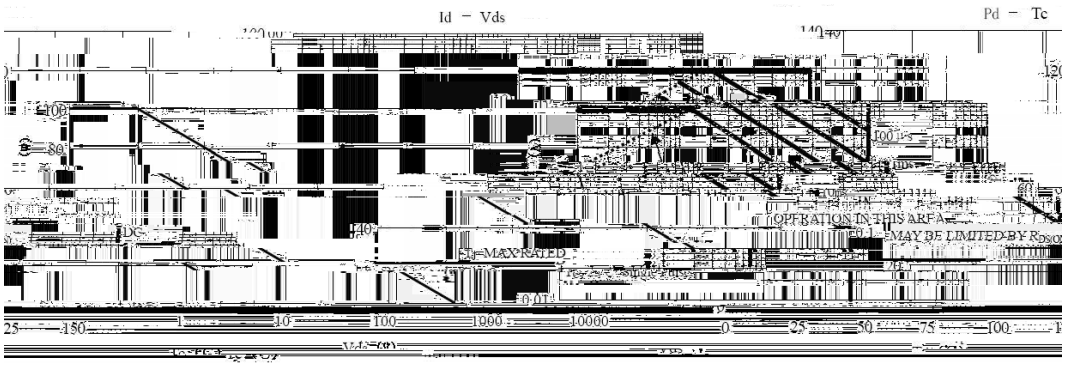
/ Absolute Maximum Ratings(Ta=25)

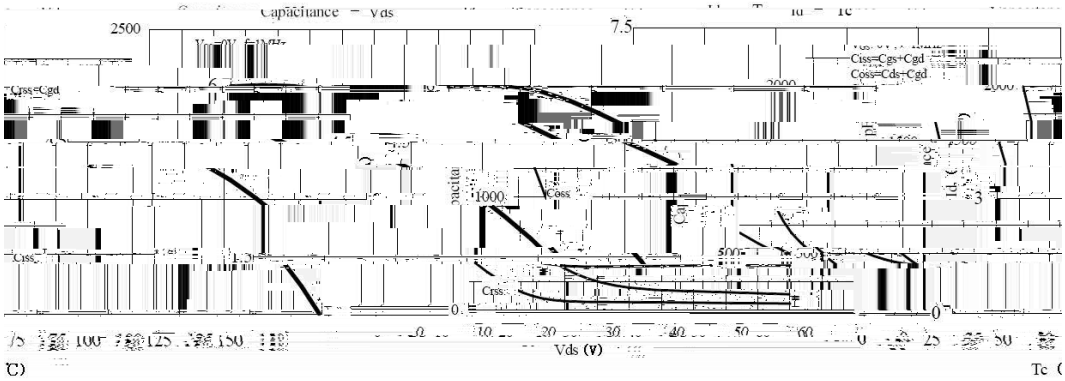
v ̈Ω̣ Parameter	ɬ N Symbol	̈Ω̣Ö Rating	D Ɉ Unit
Drain-Source Voltage	V_{DSS}	700	V
Drain Current	I_D(Tc=25)	6.0	A
Drain Current	I_D(Tc=100)	3.6	A
Drain Current - Pulsed	I_{DM}	24	A
Gate-Source Voltage	V_{GS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	185	mJ
Repetitive Avalanche Energy	E_{AR}	20	mJ
Avalanche Current	I_{AR}	3.3	A
Power Dissipation	P_D(Tc=25)	100	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Junction-to-Case	$R_{ɗJC}$	1.25	/W
Junction-to-Ambient	$R_{ɗJA}$	62	/W

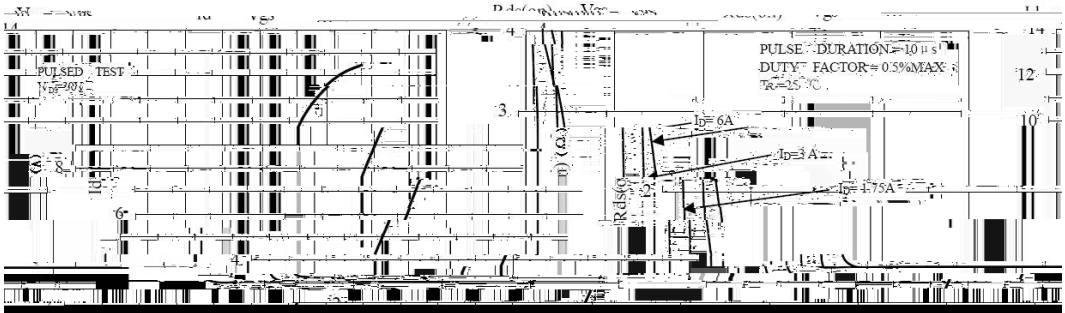
/ Electrical Characteristics(Ta=25)

v ̈Ω̣ Parameter	ɬ N Symbol	⊥⊥ ;ˇ ̣ T Test Conditions	ω̣ ṇ Ö Min	Ɛ ʒ Ö Typ	ω̣ ᶻ Ö Max	D Ɉ Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250εA	700			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=700V V_{GS}=0V			1	εA
		V_{DS}=560V T_a=125			100	εA
Gate-Body Leakage Current, Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±10	εA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250εA	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=3.0A		1.35	1.6	q
Forward Transconductance	g_{FS}	V_{DS}=15V I_D=3.0A		5.0		S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=6.0A			1.5	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		938		pF
Output Capacitance	C_{oss}			87.8		pF
Reverse Transfer Capacitance	C_{rss}			8.2		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=350V I_D=6.0A R_G=25q V_{GS}=10V		14.7		ns
Turn-On Rise Time	t_r			26		ns
Turn-Off Delay Time	$t_{d(off)}$			68.4		ns
Turn-Off Fall Time	t_f			34.6		ns

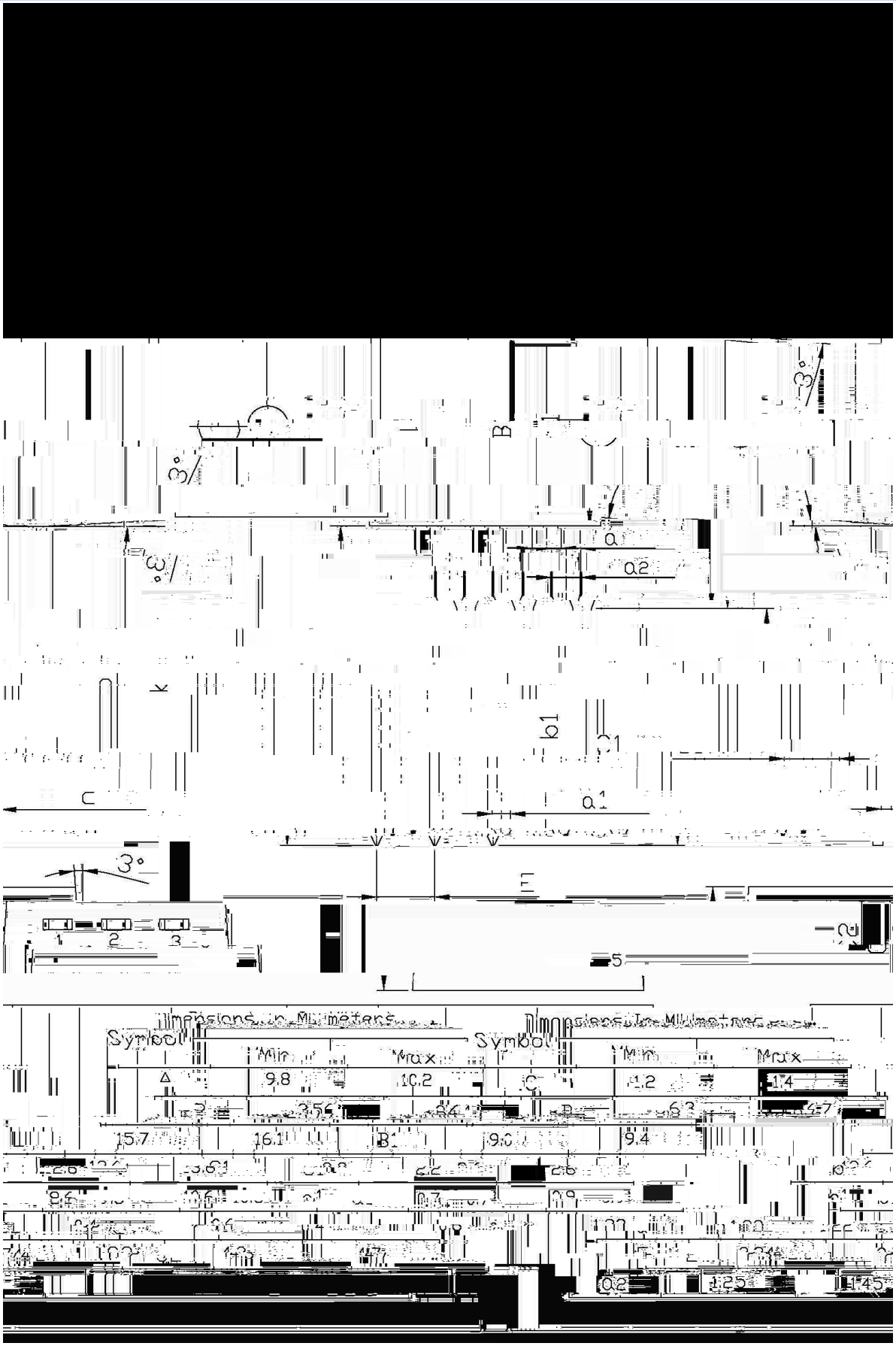
/ Electrical Characteristic Curve



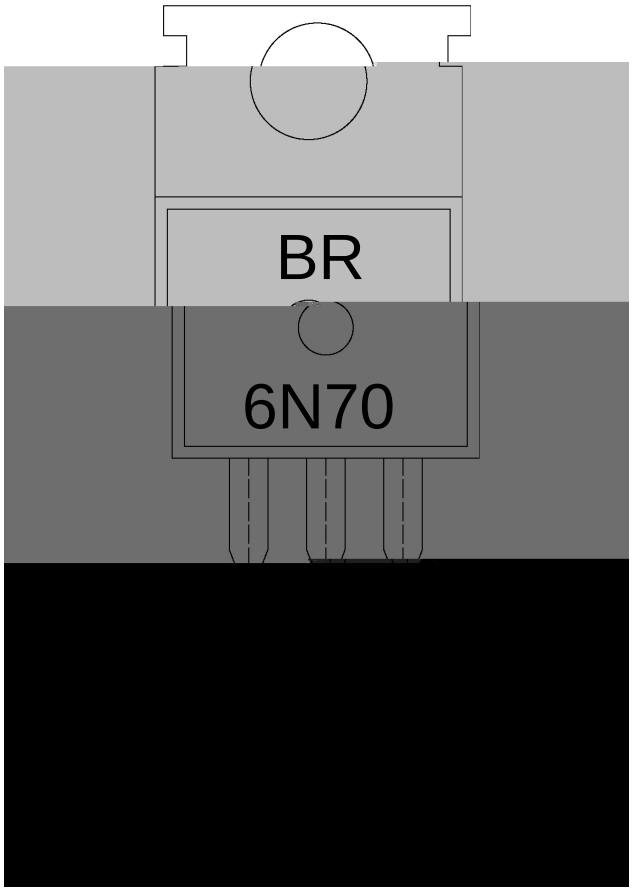




/ Package Dimensions

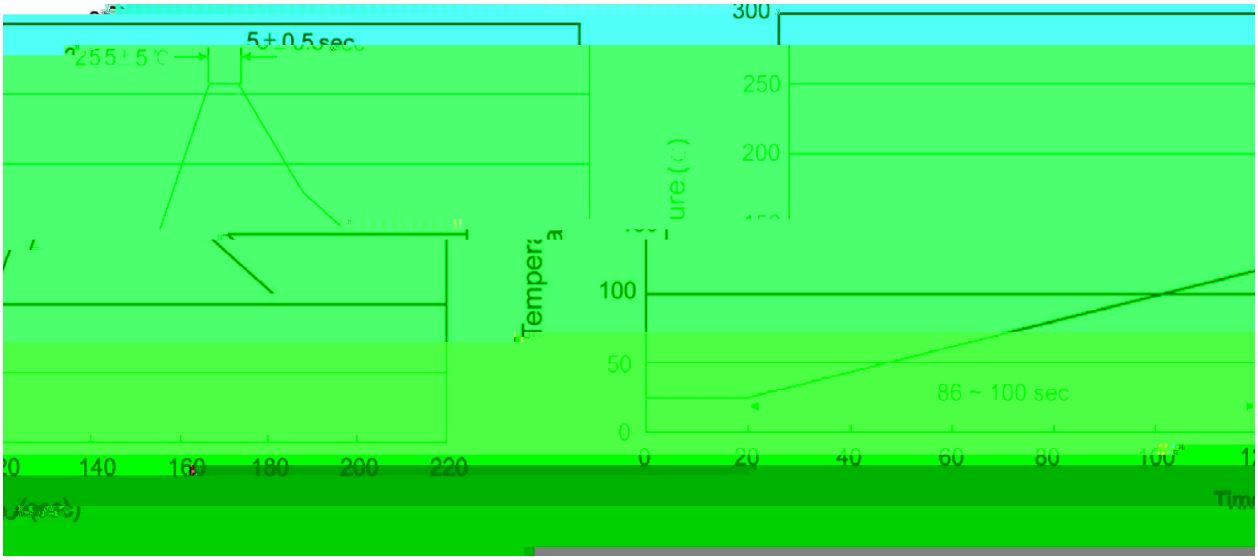


/ Marking Instructions



ب ˝ χ	
BR χ	ⰼ ⰾ ⱈ ⱏ
9Q : 3 χ	ⰼ ⰿ ⱉ ⱏ
- - - - χ	ⰼ ⰰ ⰼ ⱀ ⱉ ⱏ ⱐ ⱑ ⰰ ⰼ ⱀ ⱉ ⱏ ⱐ ⱑ ⱓ ⱔ
Note:	
BR:	Company Code
6N70:	Product Type.
****:	Lot No. Code, code change with Lot No.

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



ب ˝ χ

1 ℓ ♬ □ ỷ 25 Ḱ 150 ɫ ı `H ڑ 60 Ḱ 90sec;

2 Š Ö □ ỷ 255 ° 5 ɫ ı `H ڑ ˋY ⺈ ⺮ 5 ° 0.5sec;

3 ì ˙ ⺈ ˛ ɔ ھ ỷ ⺮ 2 Ḱ 10 ɫ /sec.

Note:

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

2.Peak Temp.:255 ° 5 ɫ , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ɫ /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 270 ° 5 ɫ `H ڑ χ 10 ° 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

ˋΩ ţ ɣ ŁŁ / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	只袋	袋盒	只盒	盒箱	只箱	袋	盒	箱