

/ Descriptions

TO-251 N MOS N-CHANNEL MOSFET in a TO-251 Plastic Package.

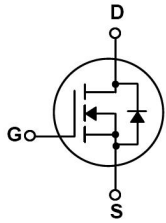
/ Features

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

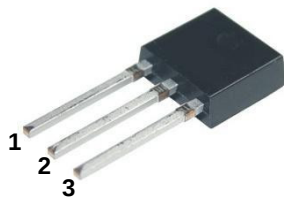
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

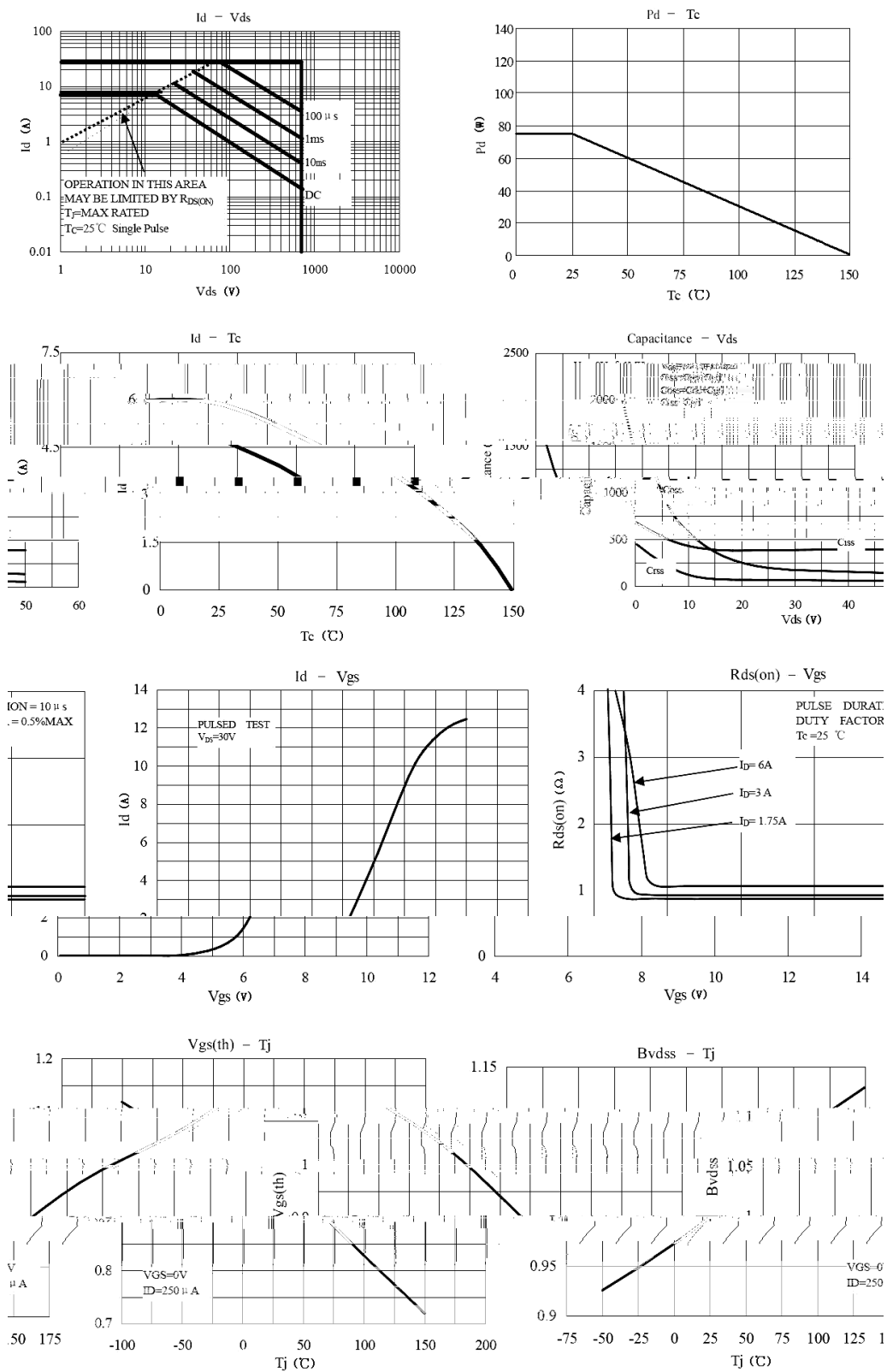
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	700	V
Drain Current	$I_D(T_c=25)$	6.0	A
Drain Current	$I_D(T_c=100)$	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	$P_D(T_c=25)$	75	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$
Junction-to-Case	R_{JC}	1.66	$^{\circ}C/W$
Junction-to-Ambient	R_{JA}	83.3	$^{\circ}C/W$

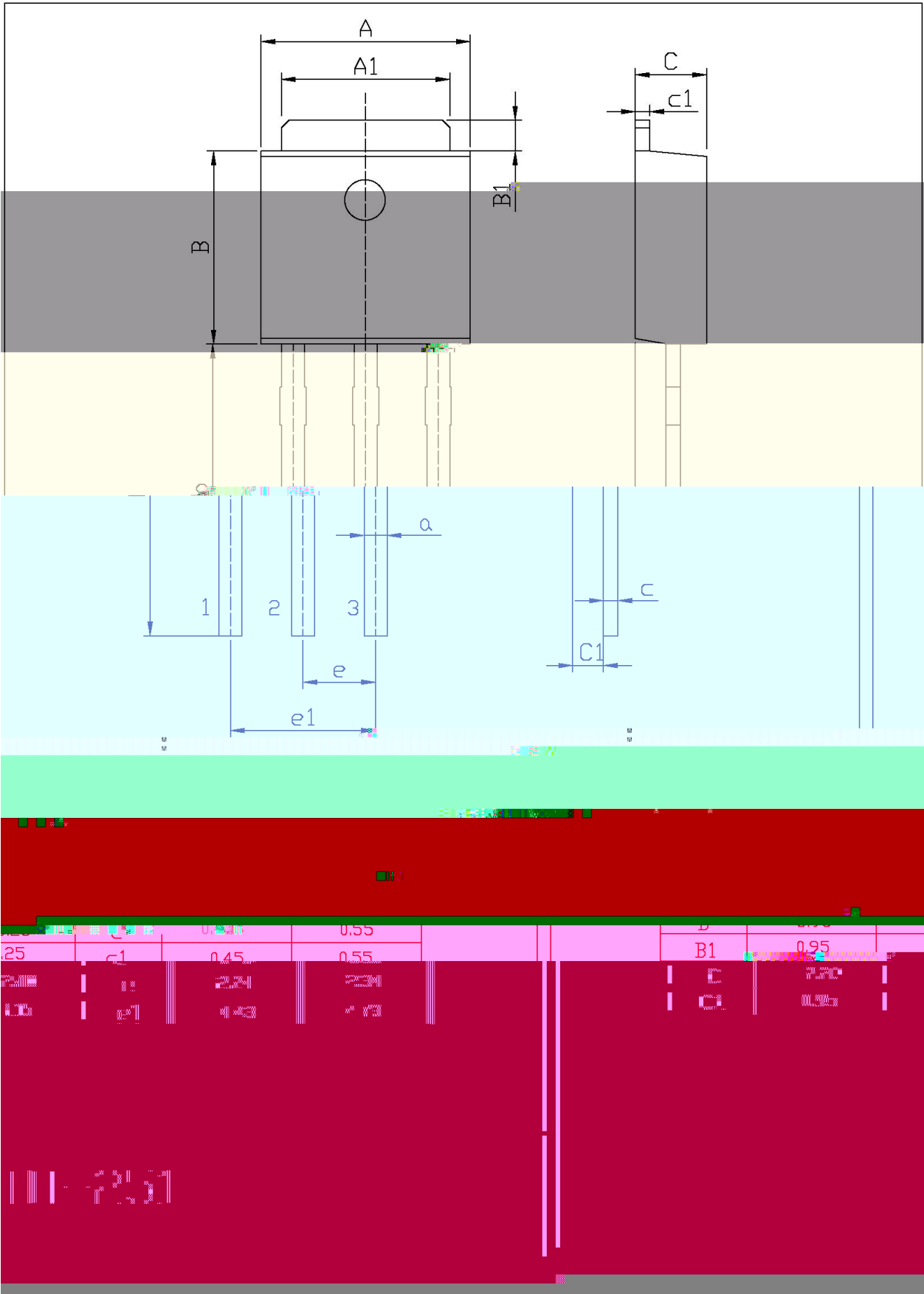
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250 A$	700			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=700V$ $V_{GS}=0V$			1	A
		$V_{DS}=560V$ $T_a=125$			100	A
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 10	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250 A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.0A$		1.35	1.6	
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	$t_{d(on)}$	$V_{DD}=350V$ $I_D=6.0A$ $R_G=25$ $V_{GS}=10V$		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

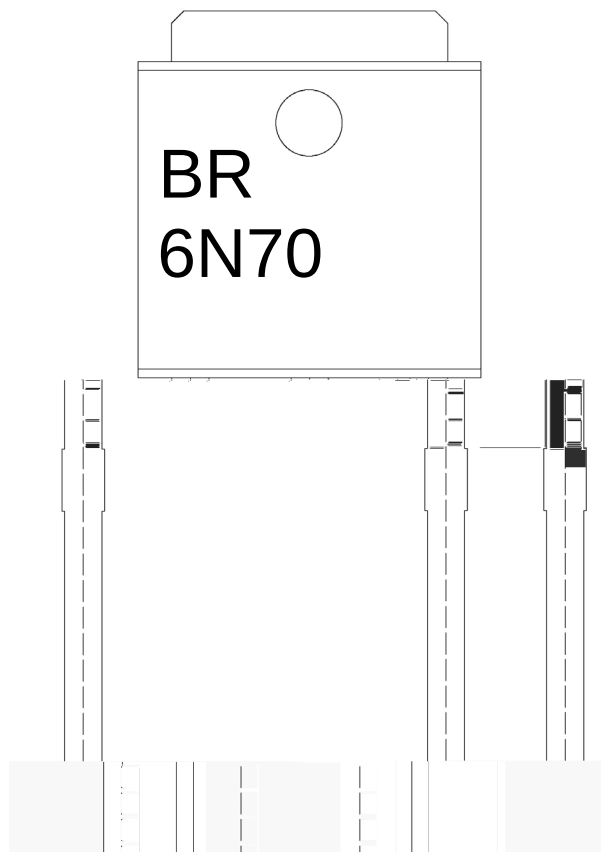
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

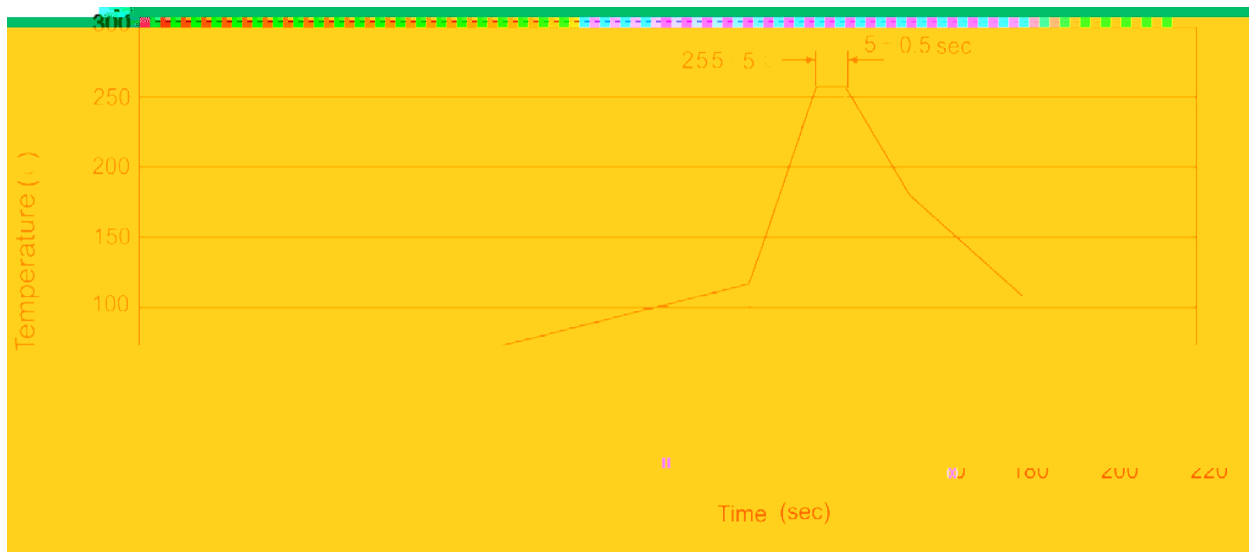
Note:

BR: Company Code

6N70: 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

/ Packaging SPEC.

/ 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

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只套管	套管盒	只盒	盒箱	只箱	套管	盒	箱

/ Notices