

/ Descriptions

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

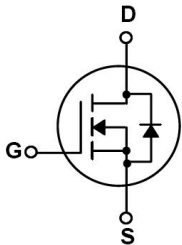
/ Features

Low thermal resistance, fast switching.

/ Applications

For Electronic transformer, Switch mode power supply.

/ Equivalent Circuit



PIN1 G PIN 2 D PIN 3 S

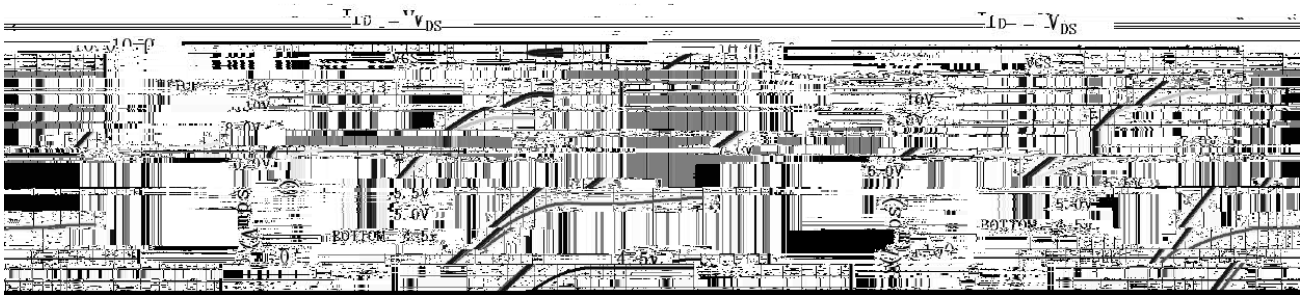
/ h_{FE} Classifications & Marking

See Marking Instructions.

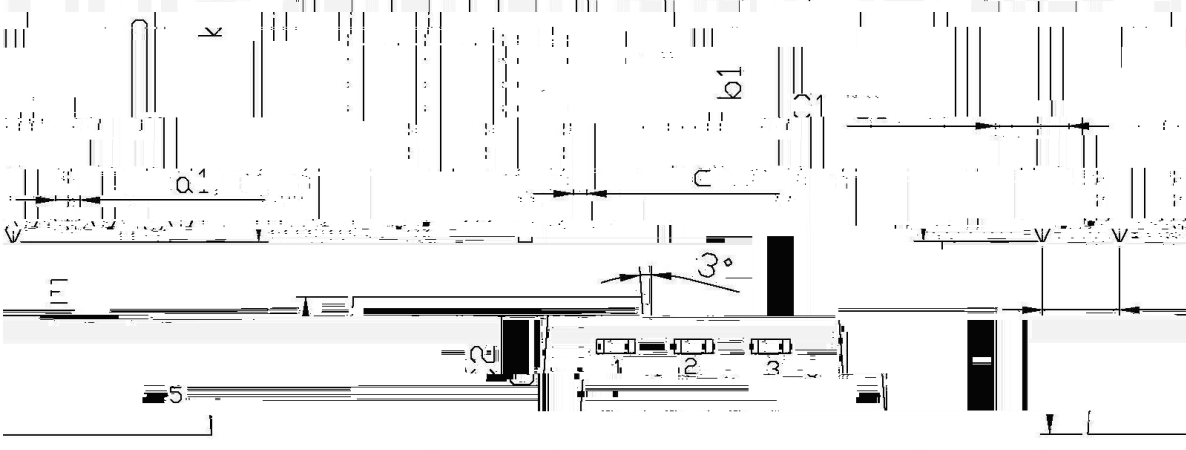
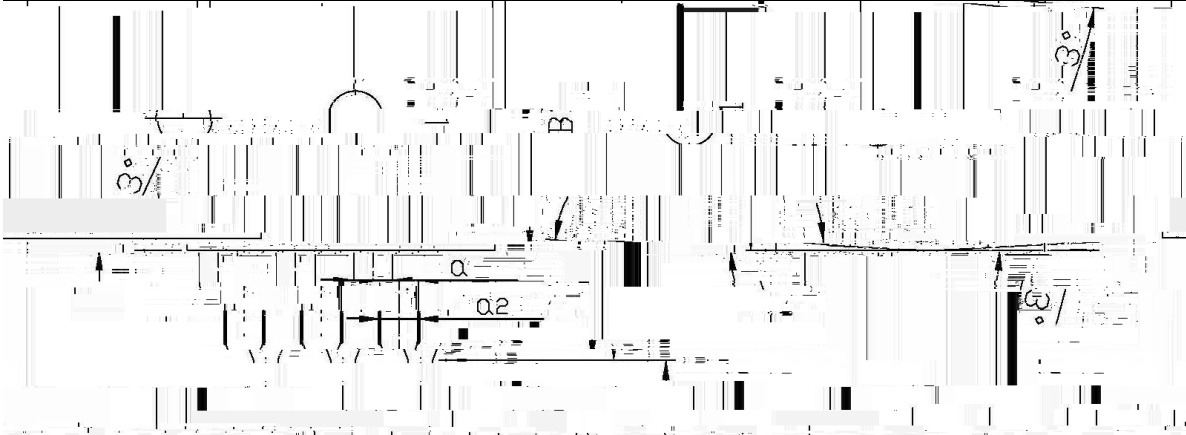
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	700	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	4.0	A
Drain Current	$I_D(T_c=100^\circ\text{C})$	2.5	A
Drain Current - Pulsed	I_{DM}	16	A
Single Pulsed Avalanche Energy	E_{AS}	260	mJ
Power Dissipation	P_{tot}	106	W
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	
Thermal Resistance Junction-case	R_{-JC}	1.18	/W
Thermal Resistance Junction-ambient	R_{-JA}	62.5	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	700			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=700V$ $V_{GS}=0V$ $T_j=25$			1	μA
		$V_{DS}=560V$ $V_{GS}=0V$ $T_j=125$			10	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$			± 100	nA
Continuous Diode Forward Current	I_S				4.0	A
Drain-Source Diode Forward Voltage	V_{SD}	$I_S=4.0A$ $V_{GS}=0V$ $T_j=25$			1.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=2.0A$			2.8	
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS}=V_{DS}$ $I_D=250\mu A$	2.0		4.0	V
Reverse Recovery Time	t_{rr}	$I_f=4.0A$ $T_j=25$ $di/dt=100A/\mu s$		250		nS
Reverse Recovery Charge	Q_{rr}			1.5		μC
Input Capacitance	C_{iss}	$V_{GS}=0V$ $V_{DS}=25V$ $V_F=1.0MHZ$		520		pF
Turn-Off Delay Time	$t_{d(off)}$	$V_{DD}=350V$ $I_D=4.0A$ $R_G=25$		25		ns

/ Electrical Characteristic Curve

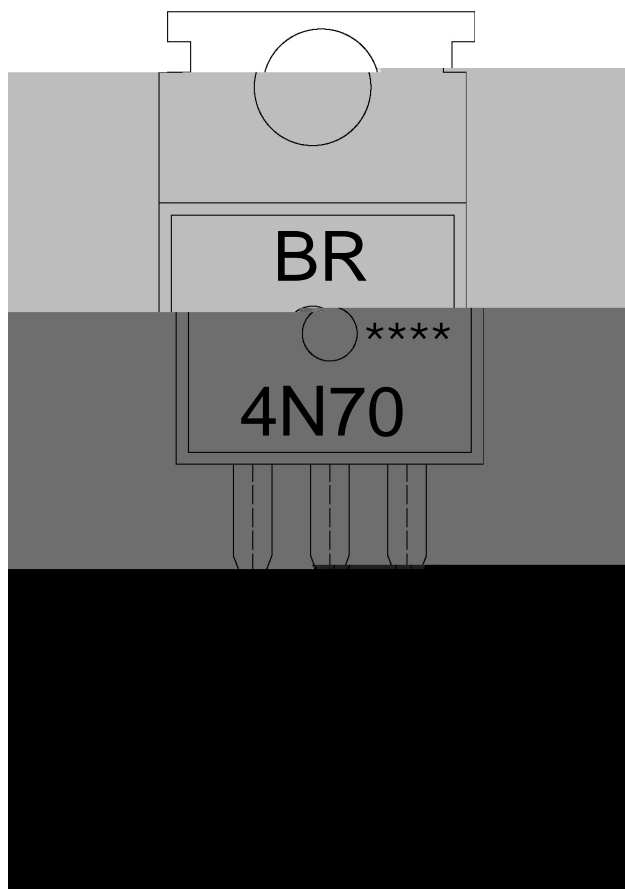


/ Package Dimensions



Dimensions in Millimeters		Dimensions in Millimeters	
Symbol	Min	Symbol	Max
A	9.8	C	12.3
D	25.6	P	6.3
E	15.7	B	9.0
F	16.1	B	9.4
a ₁	9.6	a ₂	9.6
a ₂	9.6	a ₃	9.6
b ₁	14.0	b ₂	14.0
c	14.5	c	14.5
d	1.25	d	1.25
e	1.45	e	1.45

/ Marking Instructions



BR

+N7'

!!!!

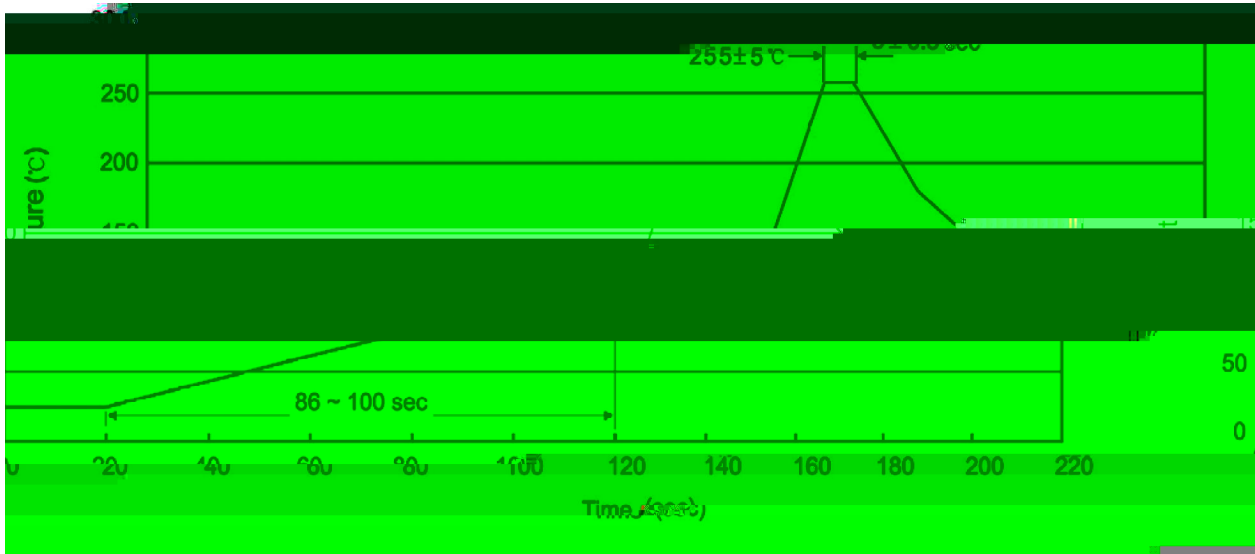
Note:

BR: Company Code

+N7' : 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±0.5 | 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

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units				Dimension (unit mm ³)
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	