

/ Descriptions

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

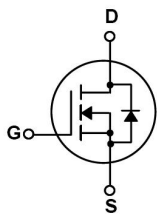
/ Features

Low gate charge, Low Crss , Fast switching.

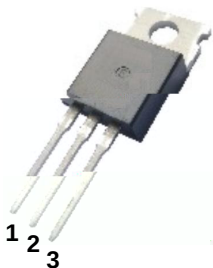
/ Applications

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S

/ h_{FE} Classifications & Marking

See Marking Instructions.

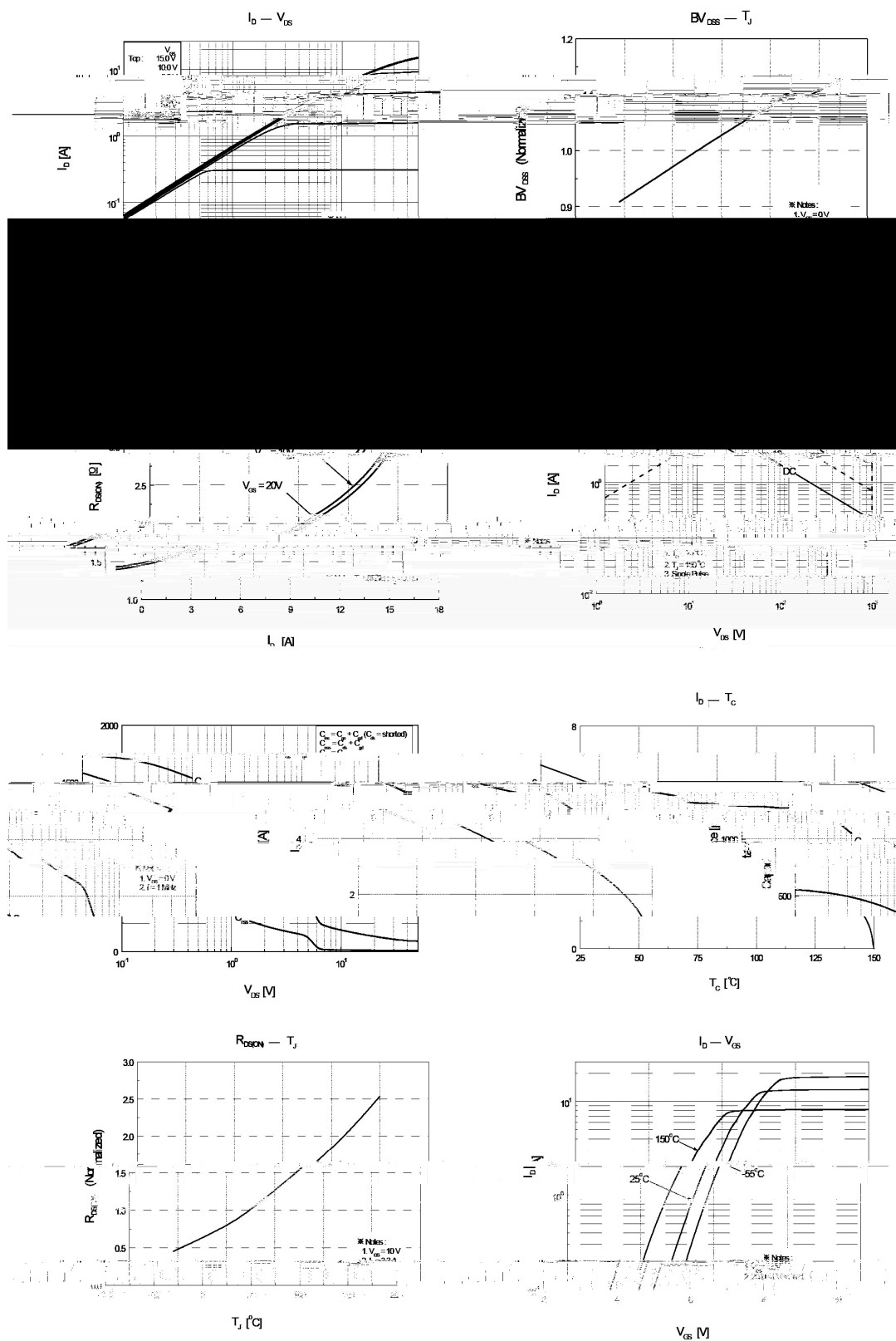
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	800	V
Drain Current	$I_D(T_C=25)$	7.0	A
Drain Current	$I_D(T_C=100)$	4.2	A
Drain Current - Pulsed	I_{DM}	26.4	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	580	mJ
Repetitive Avalanche Energy	E_{AR}	16.7	mJ
Avalanche Current	I_{AR}	6.6	A
Power Dissipation	$P_D(T_C=25)$	56	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}C$

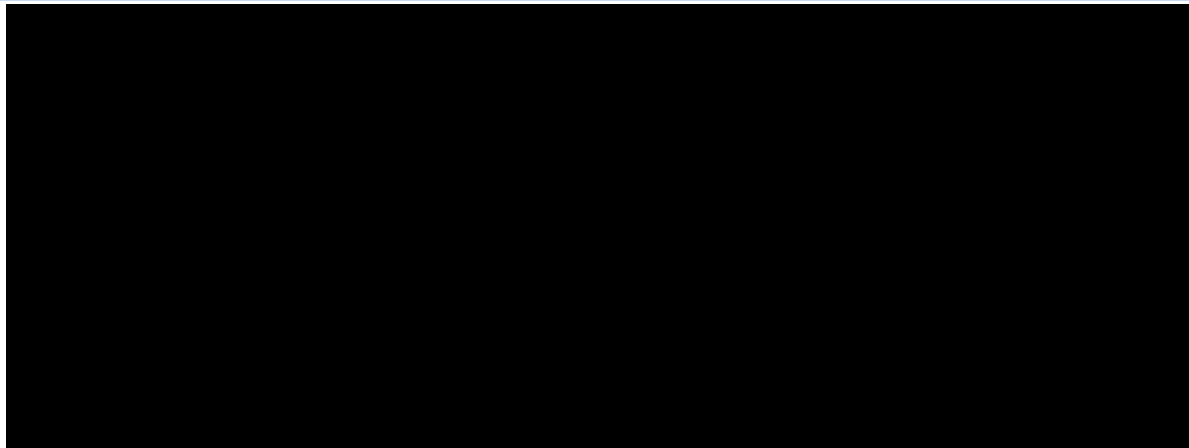
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	800			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=800V$ $V_{GS}=0V$			10	μA
		$V_{DS}=640V$ $T_C=125^{\circ}C$			100	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	3.0		5.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.3A$		1.57	1.9	Ω
Forward Transconductance	g_{FS}	$V_{DS}=50V$ $I_D=3.3A$		5.5		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=7.0A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1290	1680	pF
Output Capacitance	C_{oss}			120	155	pF
Reverse Transfer Capacitance	C_{rss}			10	13	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=400V$ $I_D=6.6A$ $R_G=25\Omega$		35	80	ns
Turn-On Rise Time	t_r			100	210	ns
Turn-Off Delay Time	$t_{d(off)}$			50	110	ns
Turn-Off Fall Time	t_f			60	130	ns

/ Electrical Characteristic Curve

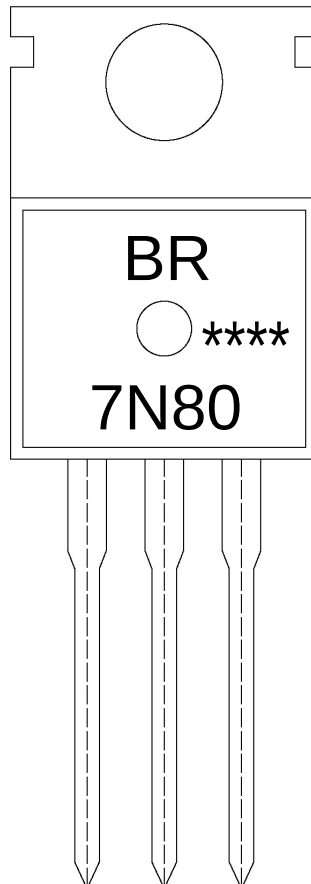


/ Package Dimensions



Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
Δ	9.8	10.2	C	1.2	1.4
R	3.55	3.64	D	6.3	6.7
L	15.7	16.1	B	9.3	9.4
b	2.6	2.6	IC	2.2	2.6
b1	9.6	10.6	a1	0.7	0.9
a	10.2	10.2	a2	1.25	1.45
a2	1.25	1.45			

/ Marking Instructions



BR

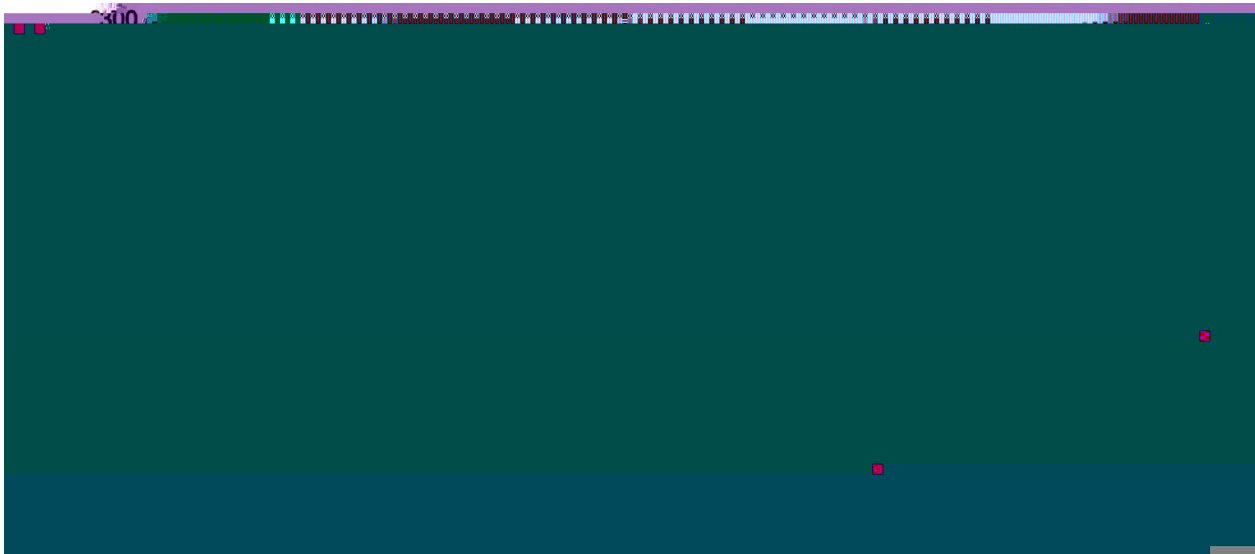
Note:

BR: Company Code

7N80: Product Type.

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

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



- Note:

1

25 150

60 90sec;

2

255 5

5 0.5sec;

3

2 10 /sec.
- 1.Preheating:25~150 , Time:60~90sec.

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

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270 5

10 1 sec.

Temp.:270±5℃