

/ Descriptions

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

/ Features

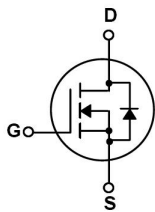
Low gate charge, low crss, fast switching.

/ Applications

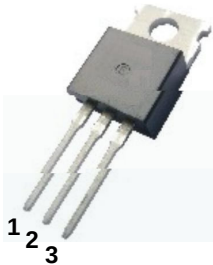
DC/DC

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

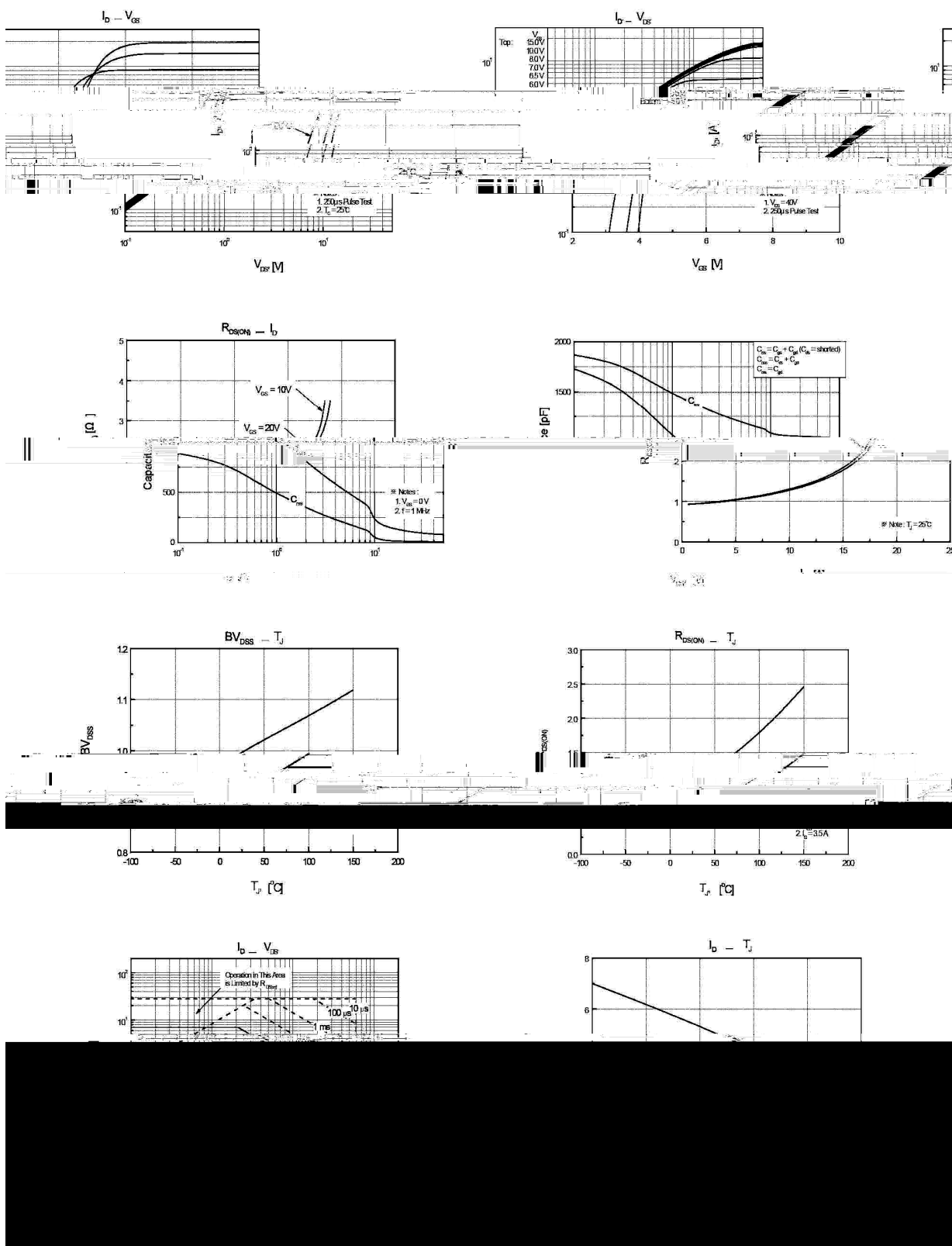
/ h_{FE} Classifications & Marking

See Marking Instructions.

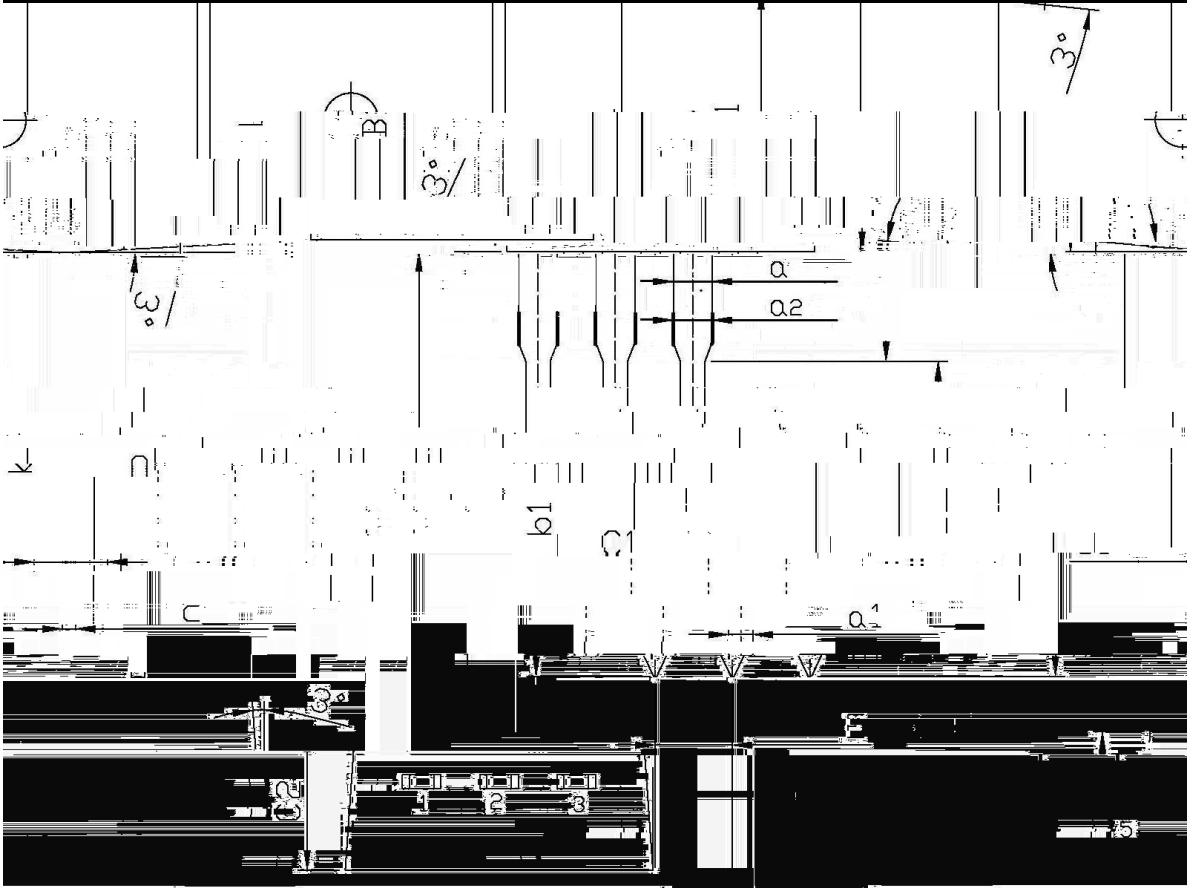
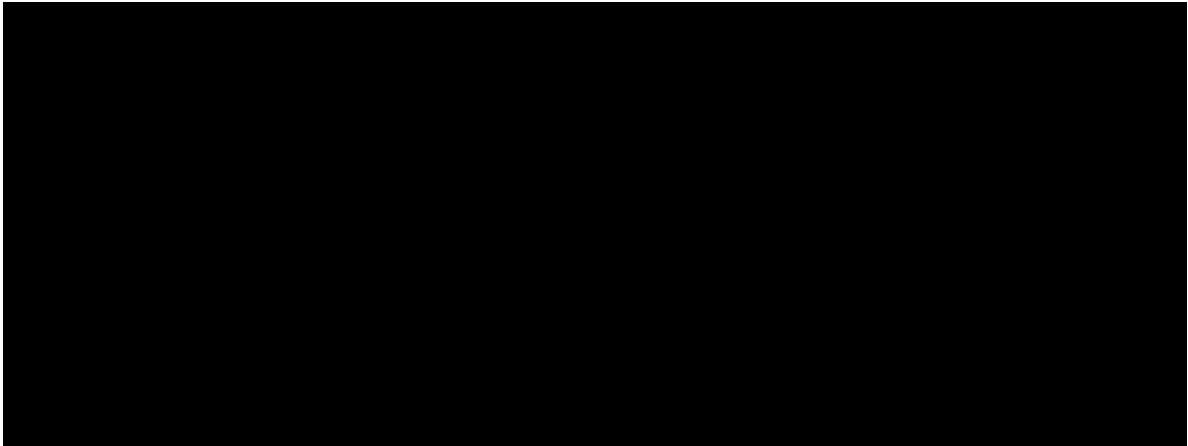
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	7.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	420	mJ
Repetitive Avalanche Energy	E_{AR}	14.7	mJ
Avalanche Current	I_{AR}	7.0	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	147	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	650			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=520V$ $T_C=125^\circ\text{C}$			100	μA
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$			1.3	Ω
Forward Transconductance	g_{FS}	$V_{DS}=40V$ $I_D=3.5A$		8.2		S
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=7.0A$			1.4	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1100	1500	pF
Output Capacitance	C_{oss}			110	150	pF

/ Electrical Characteristic Curve

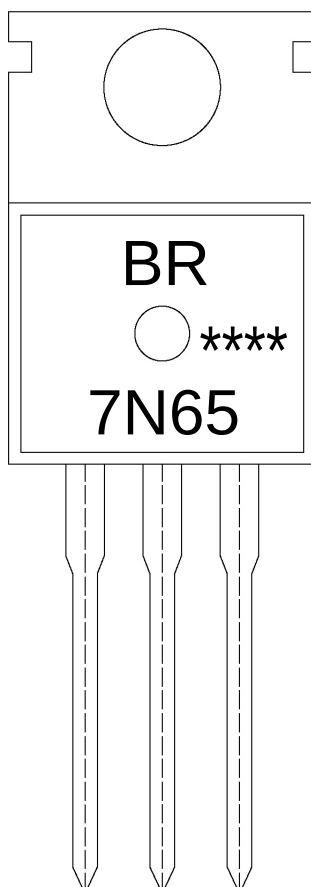


/ Package Dimensions



Dimensions		Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters		Symbol
Min	Max		Min	Max		Min	Max	
1.2	1.4	C	9.8	10.2	B	3.56	3.64	C1
6.3	6.7		15.7	16.1		12.6	13.6	
9.0	9.4		b	10.6		9.6	10.6	
2.2	2.6		b1	1.2		1.2	1.2	
0.7	0.9		0.4	0.6		0.4	0.6	
0.4	0.6	D	0.4	0.6	E	0.4	0.6	F
0.4	0.6		0.4	0.6		0.4	0.6	
0.4	0.6		0.4	0.6		0.4	0.6	
0.4	0.6		0.4	0.6		0.4	0.6	
0.4	0.6		0.4	0.6		0.4	0.6	
1.45	1.45	G	1.45	1.45	H	1.45	1.45	I
1.45	1.45		1.45	1.45		1.45	1.45	
1.45	1.45		1.45	1.45		1.45	1.45	
1.45	1.45		1.45	1.45		1.45	1.45	
1.45	1.45		1.45	1.45		1.45	1.45	

/ Marking Instructions



BR

7N65

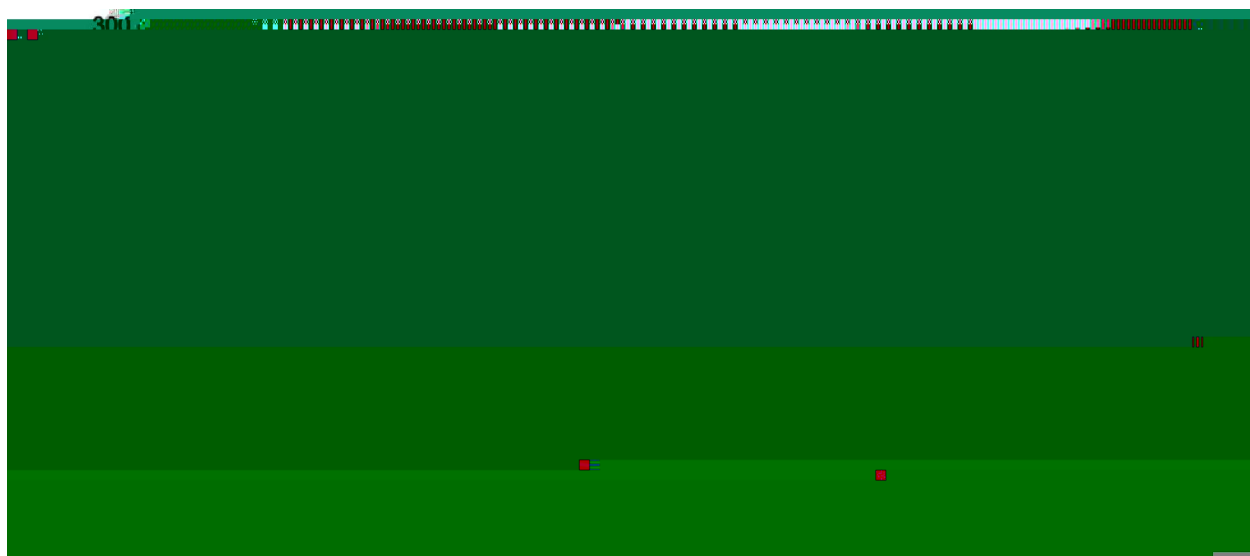
Note:

BR: Company Code

7N65: Product Type.

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

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



Note:

1 25 150