

/ Descriptions

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

/ Features

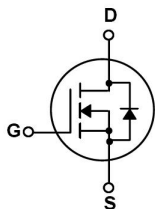
Low gate charge, low crss, fast switching.

/ Applications

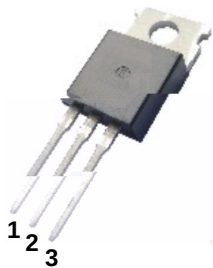
DC/DC

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

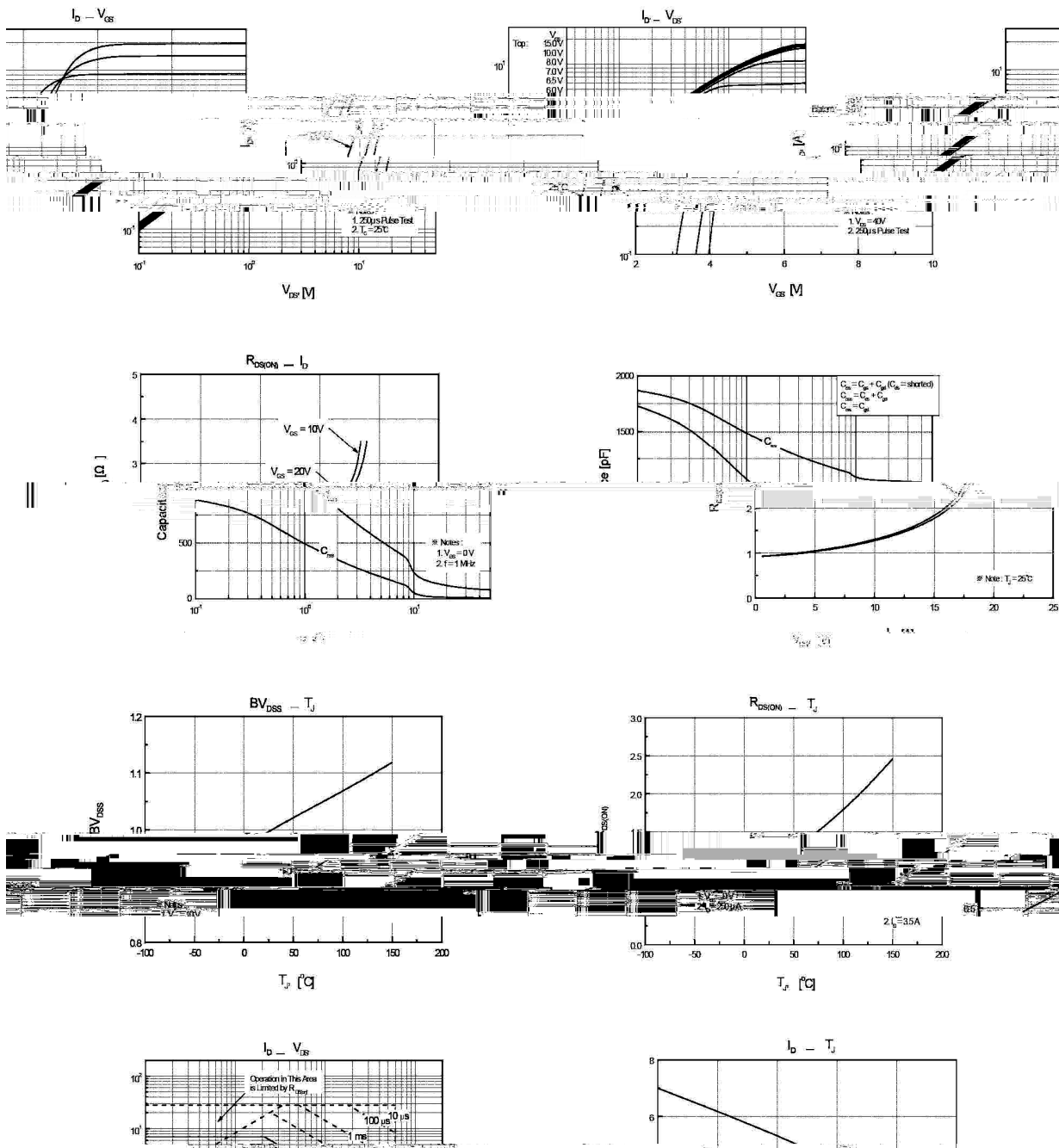
/ h_{FE} Classifications & Marking

See Marking Instructions.

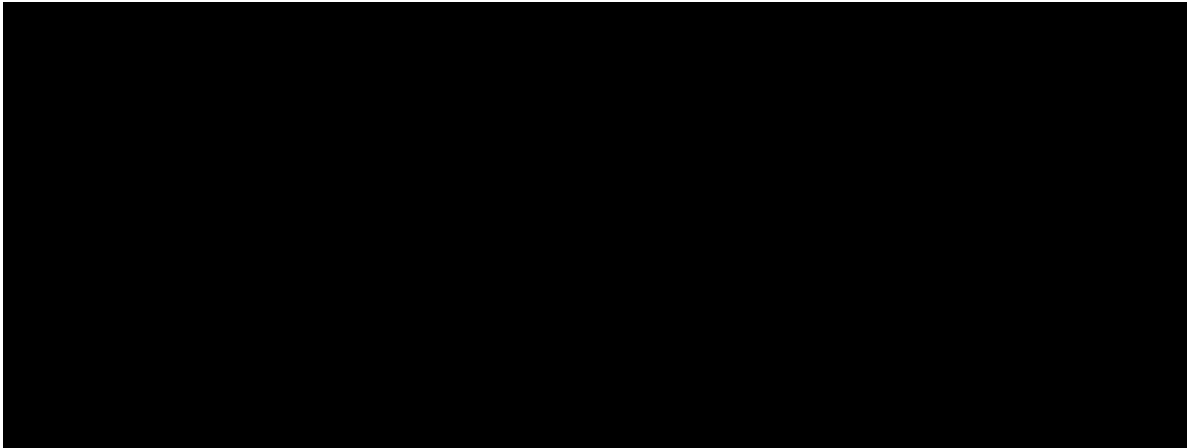
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	7.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	420	mJ
Repetitive Avalanche Energy	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_{DS}	$V_{GS}=0V$ $I_D=250\text{ A}$	650			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	A
		$V_{DS}=520V$ $T_C=125^\circ\text{C}$			100	A
Gate-Body Leakage Current, Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$			1.3	
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}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		1100	1500	pF
Output Capacitance	C_{oss}			110	150	pF

/ Electrical Characteristic Curve

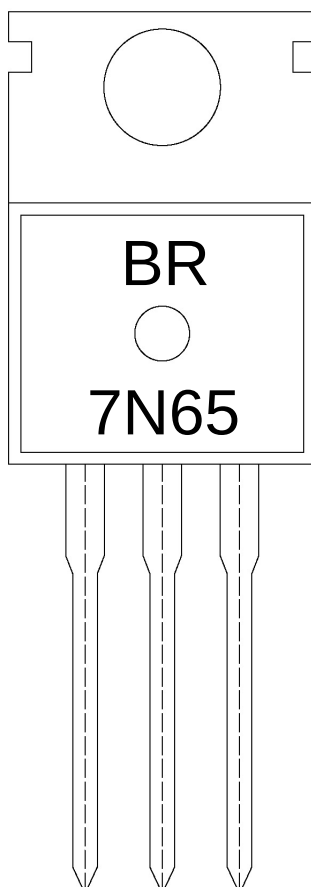


/ Package Dimensions



Dimensions in Millimeters				Dimensions in Millimeters			
Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	9.8		10.2	C	1.2		1.4
B	2.5		2.6	D	3.6		3.8
E	9.0		9.4	E	15.7		16.1
F	2.2		2.6	F	12.6		13.6
G	0.7		0.9	G	9.6		10.6
H	0.4		0.6	H	0.4		0.6
I	1.25		1.45	I	0.2		0.4

/ Marking Instructions



BR

7N65

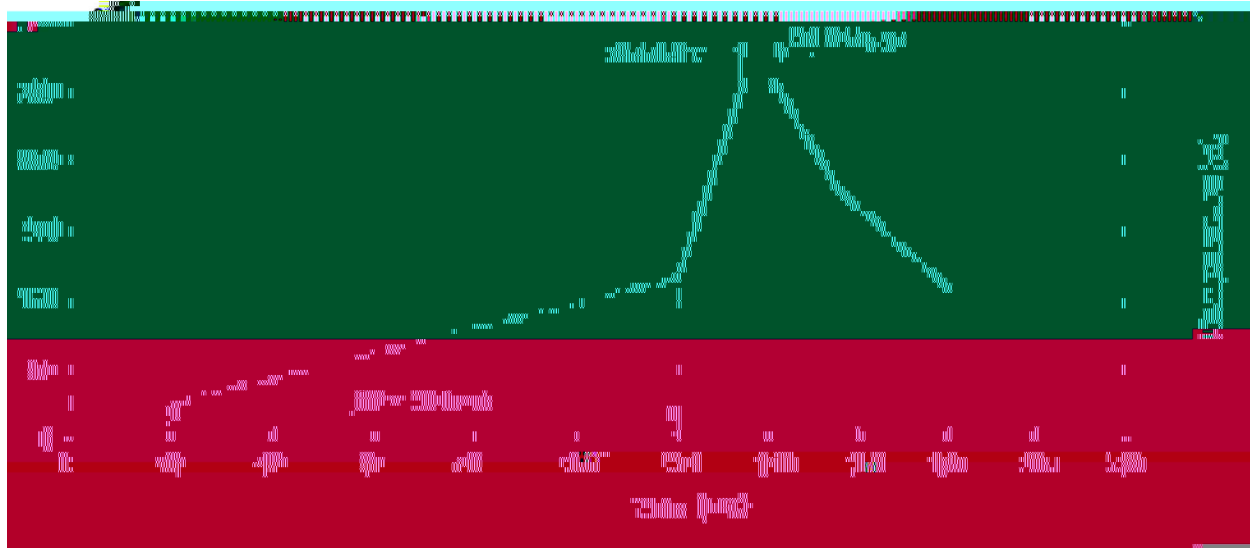
Note:

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