BR100N03

Rev.F Jul.-2018

DATA SHEET

/ Descriptions

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

/ Features

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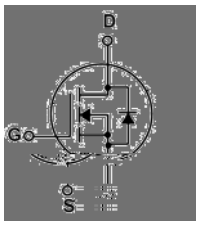
Low gate charge, low crss, fast switching.

/ Applications

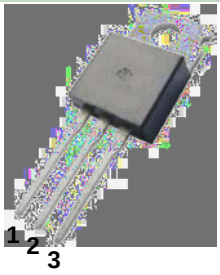
DC/DC

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.

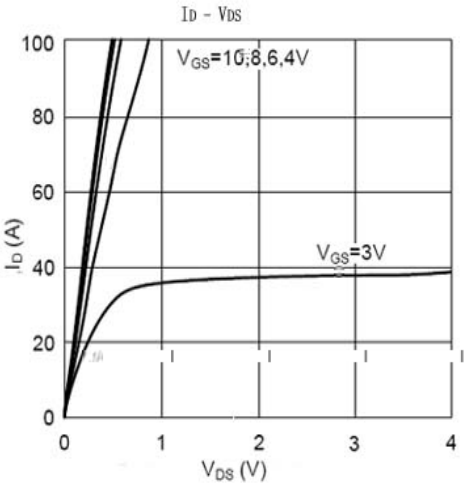
/ Absolute Maximum Ratings(Ta=25)

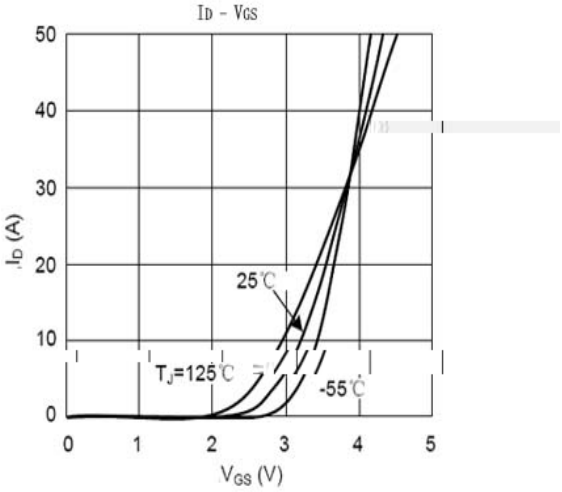
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	30	V
Drain Current	I_D(Tc=25)	100	A
Peak Drain Current	I_{DM}	400	A
Gate-Source Voltage	V_{GSS}	±20	V
Single Pulsed Avalanche Energy	E_{AS}	875	mJ
Total Power Dissipation	P_D(Tc=25)	100	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	

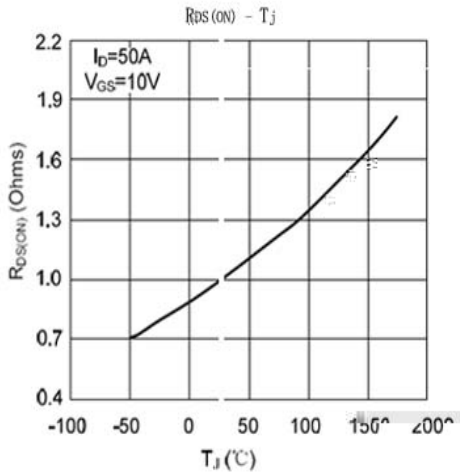
/ Electrical Characteristics(Ta=25)

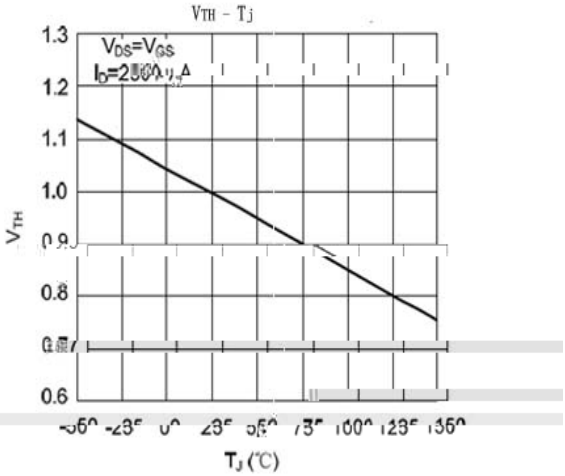
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	V_{GS}=0V	I_D=250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V	V_{GS}=0V			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	1.0		3.0	V
Forward On Voltage	V_{SD}	I_S=20A	V_{GS}=0V			1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=50A		3.5	4.5	mΩ
		V_{GS}=4.5V	I_D=40A		5.0	7.0	mΩ
Input Capacitance	C_{iss}	V_{GS}=0V V_{DS}=15V	f=1.0MHz		9500		pF
Output Capacitance	C_{oss}				800		pF
Reverse Transfer Capacitance	C_{rss}				300		pF
Total Gate Charge	Q_G	V_{DS}=15V I_D=16A	V_{GS}=5V		50	65	nC
Gate Source Charge	Q_{GS}				20.8		nC
Gate Drain Charge	Q_{GD}				19		nC
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=15V R_{GEN}=6Ω	I_D=1A V_{GS}=10V		25.7	50	ns
Turn-On Rise Time	t_r				10	20	ns
Turn-Off Delay Time	$t_{d(off)}$				128	200	ns
Turn-Off Fall Time	t_f				34	70	ns

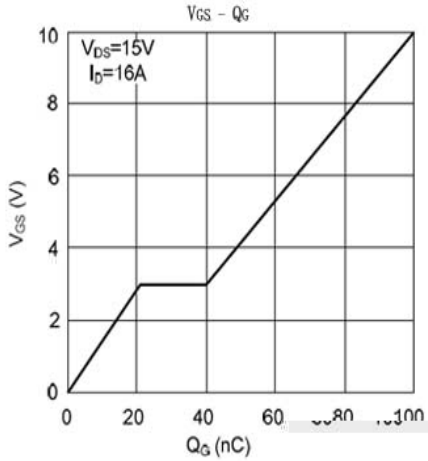
/ Electrical Characteristic Curve

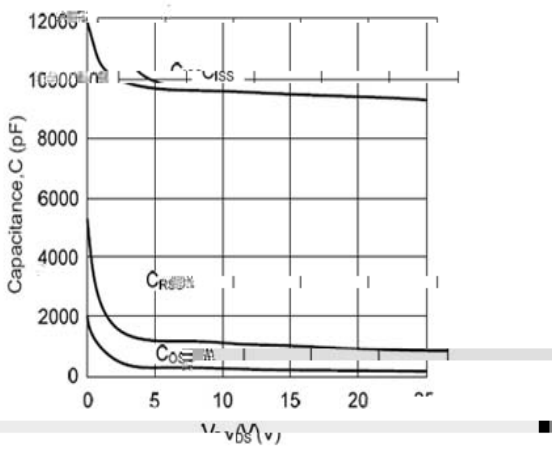




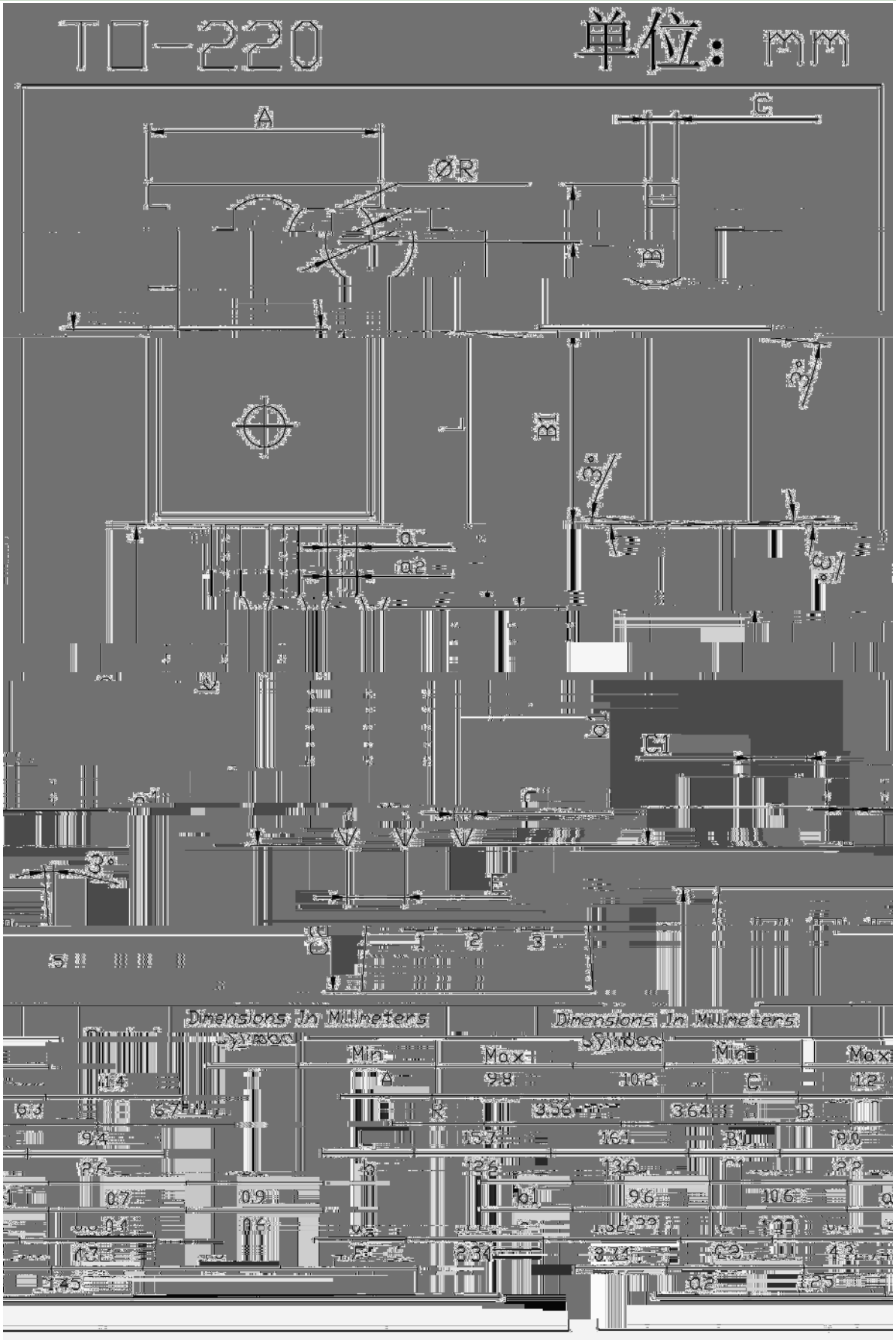




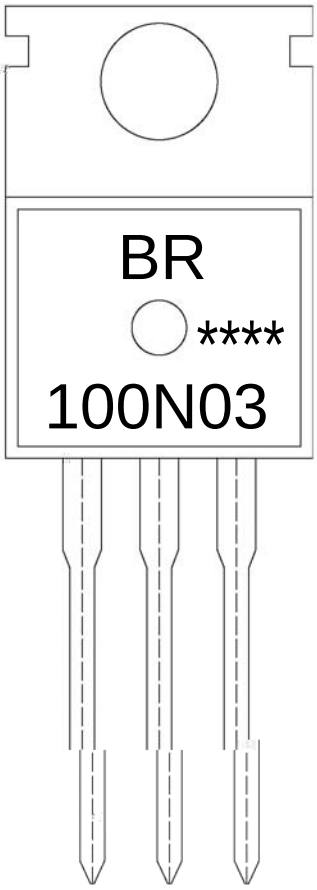




/ Package Dimensions



/ Marking Instructions



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Note:

BR:	Company Code
100N03:	Product Type.
****:	Lot No. Code, code change with Lot No.