

/ Descriptions

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

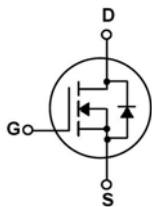
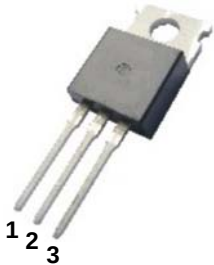
/ Features

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.

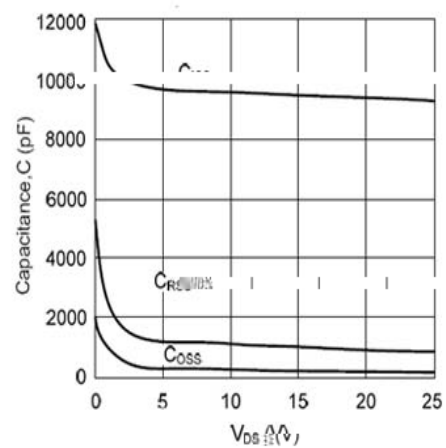
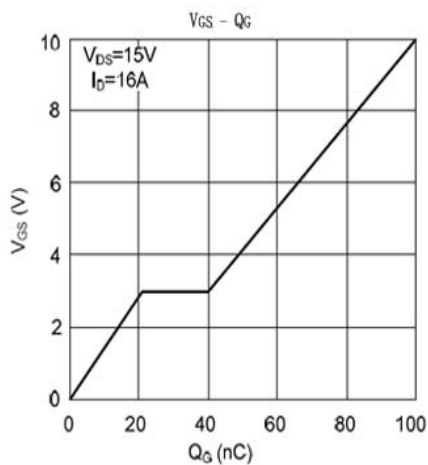
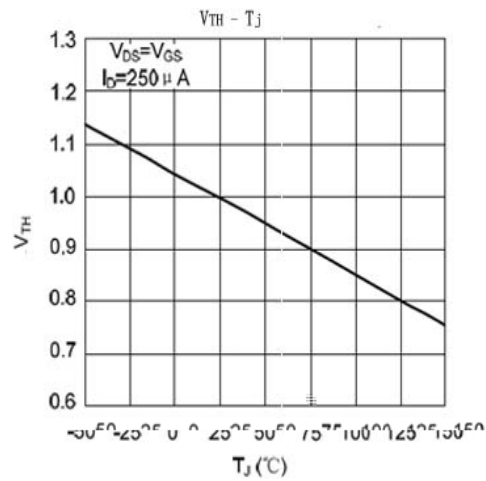
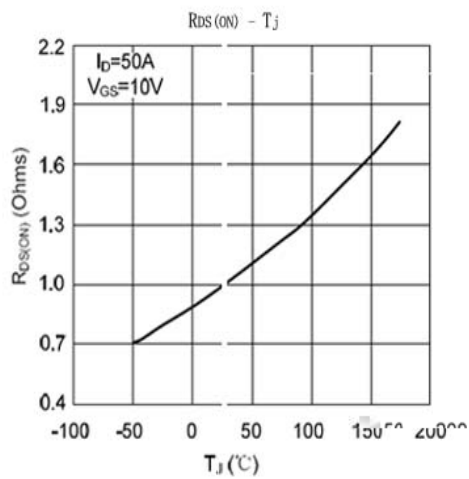
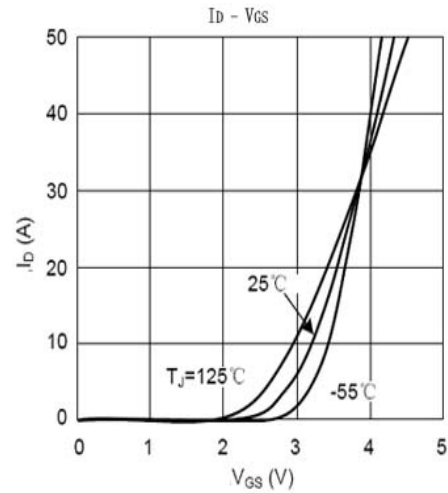
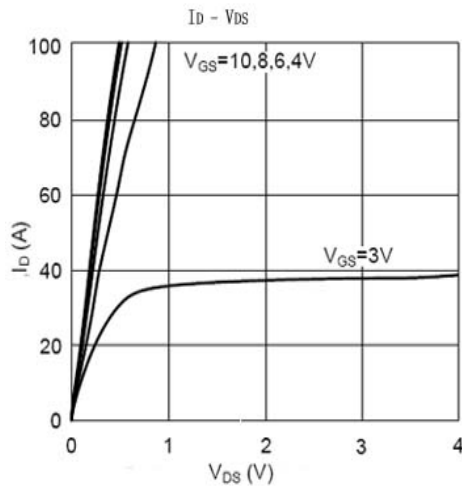
/ Absolute Maximum Ratings(Ta=25)

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

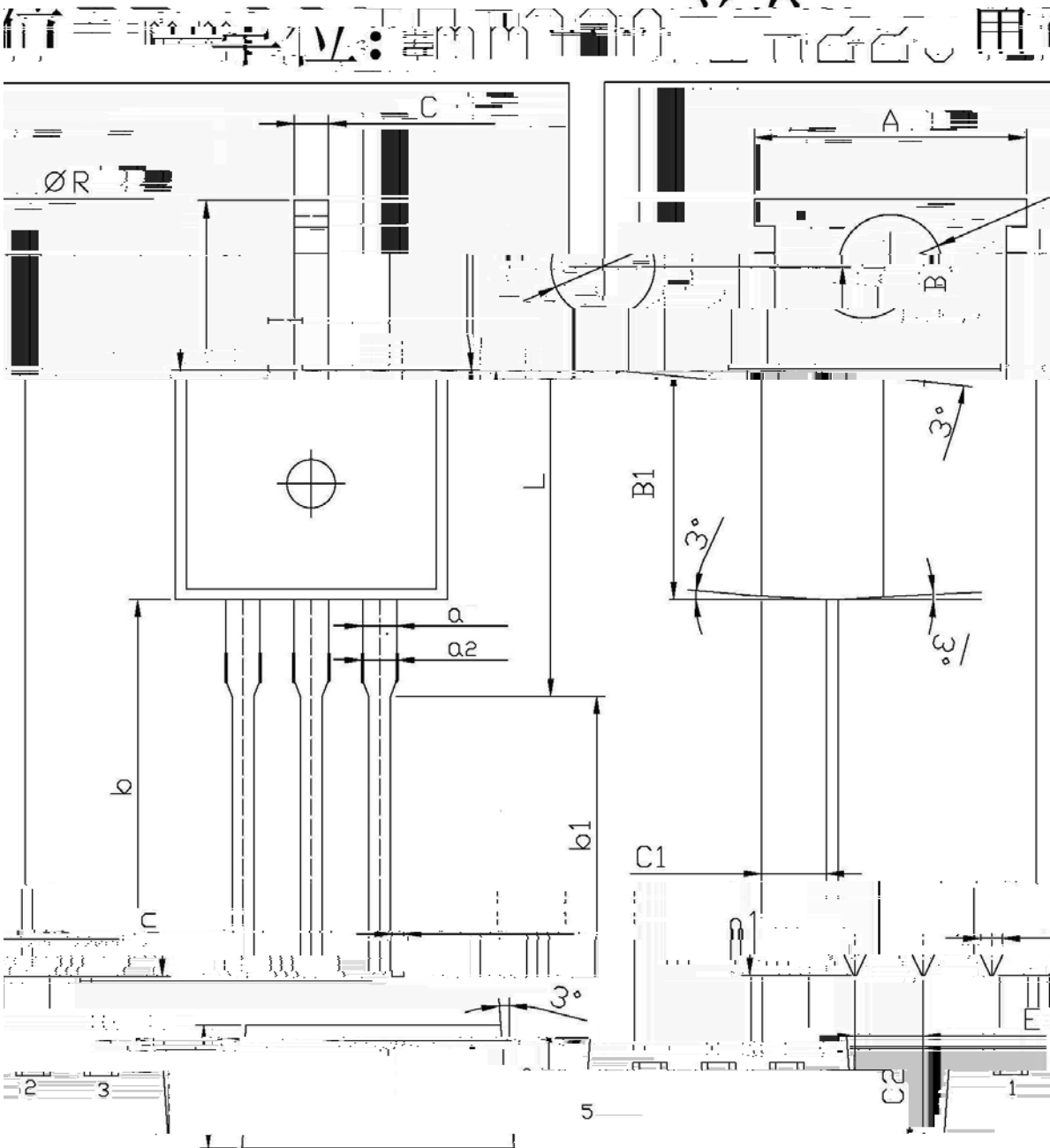
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero Gate Voltage Drain Current	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	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	m Ω
		$V_{GS}=4.5V$ $I_D=40A$		5.0	7.0	m Ω
Input Capacitance	C_{iss}	$V_{GS}=0V$ $f=1.0MHz$ $V_{DS}=15V$		9500		pF
Output Capacitance	C_{oss}			800		pF
Reverse Transfer Capacitance	C_{rss}			300		pF
Total Gate Charge	Q_G	$V_{DS}=15V$ $V_{GS}=5V$ $I_D=16A$		50	65	nC
Gate Source Charge	Q_{GS}			20.8		nC
Gate Drain Charge	Q_{GD}			19		nC
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=15V$ $I_D=1A$ $R_{GEN}=6\Omega$ $V_{GS}=10V$		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

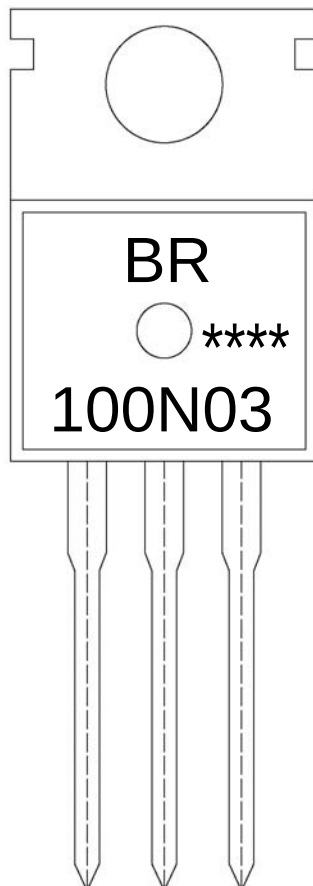


/ Package Dimensions



Dimensions In Millimeters				Dimensions In Millimeters			
Symbol		Min	Max	Symbol		Min	Max
1.4			A	9.8		10.2	C
6.3				R		3.56	B
9.0				L		15.7	B1
2.2				b		12.6	C1
0.7				b1		9.6	a1
0.4				a		1.22	c
4.3				a2		2.34	C2
				ØR		1.45	

/ Marking Instructions



BR

100N03

Note:

BR: Company Code

100N03: Product Type.

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

