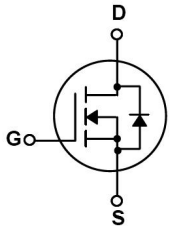
TO-220 N

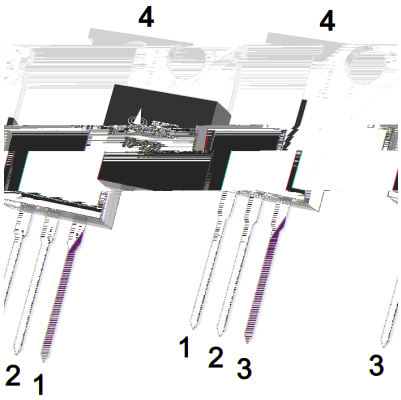
N-CHANNEL MOSFET in a TO-220 Plastic Package.

V_{DS} (V) = 200V I_D =67A (V_{GS} = 20V)

HF Product.

Motor drivers, DC - DC Converter.





PIN1 G PIN 2 4 D PIN 3 S

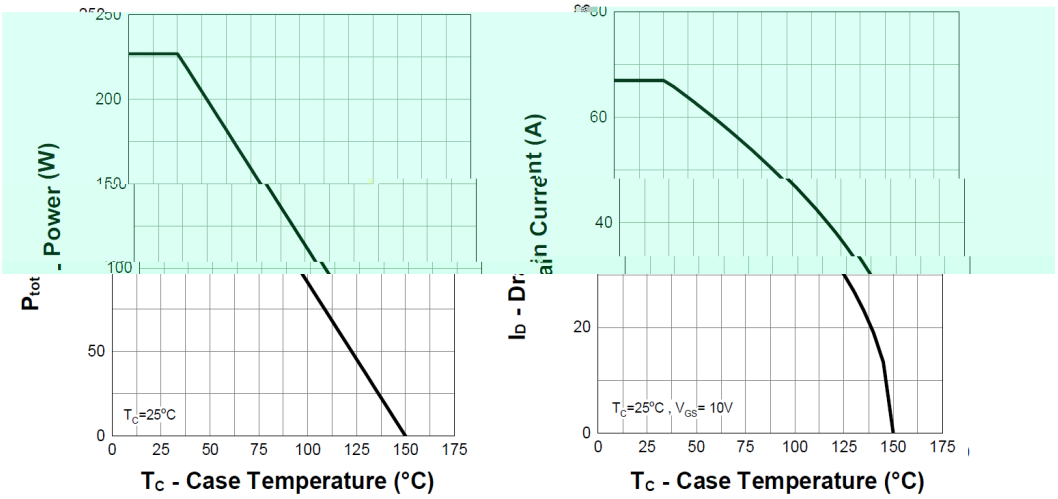
See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	200	V
Drain Current	I_D(Tc=25)	67	A
	I_D(Tc=100)	42	A
Pulsed Drain Current*	I_{DM}	175	A
Gate-Source Voltage	V_{GS}	20	V
Single Pulsed Avalanche Energy (V_{DD}=50V,L=1.0mH)	E_{AS}	685	mJ
Continuous-Source Current	I_S	67	A
Total Power Dissipation	P_D(Tc=25)	227	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient**	$R_{\theta JA}$	42	/W
Thermal Resistance-Junction to Case	$R_{\theta JC}$	0.55	

Notes
* Pulse width 300 μs, duty cycle ≤ 2 %
** Surface Mounted on 1 in^2 pad area, t ≤ 10 sec

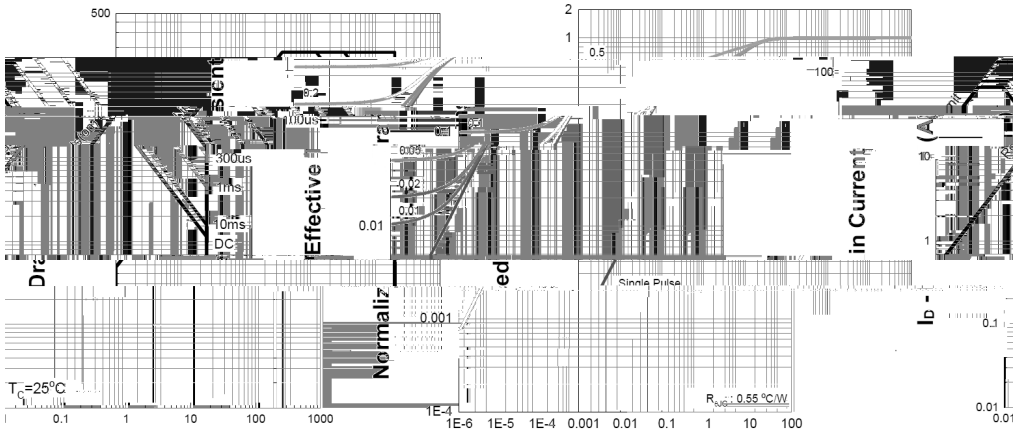
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	200			V
Drain Leakage Current	I_{DSS}	V_{DS}=160V V_{GS}=0V			1	μA
Gate Leakage Current	I_{GSS}	V_{GS}=±20V V_{DS}=0V			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=30A		17	20	mΩ
	$R_{DS(on)}$	V_{GS}=6V I_D=20A		19	22	
Forward On Voltage	V_{SD}	V_{GS}=0V I_S=30A			1.3	V
Reverse Recovery Time	t_{rr}	I_{DS} = 30 A, V_{GS} = 0 V dI_{SD}/dt = 100 A/μs		118		nS
Reverse Recovery Charge	Q_{rr}			441		nC
Input Capacitance	C_{iss}	V_{DS}=100V V_{GS}=0V f=1MHz		3517		pF
Output Capacitance	C_{oss}			200		
Reverse Transfer Capacitance	C_{rss}			30		
Total Gate Charge	Q_g	V_{DS}=100V V_{GS}=10V I_D=30A		59		nC
Gate-Source Charge	Q_{gs}			20		
Gate-Drain Charge	Q_{gd}			14		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GEN}=10V V_{DS}=100V R_L=3.3Ω R_G=3.9Ω I_{DS}=30A		16		ns
Turn-On Rise Time	t_r			82		
Turn-Off Delay Time	$t_{d(off)}$			38		
Turn-Off Fall Time	t_f			86		



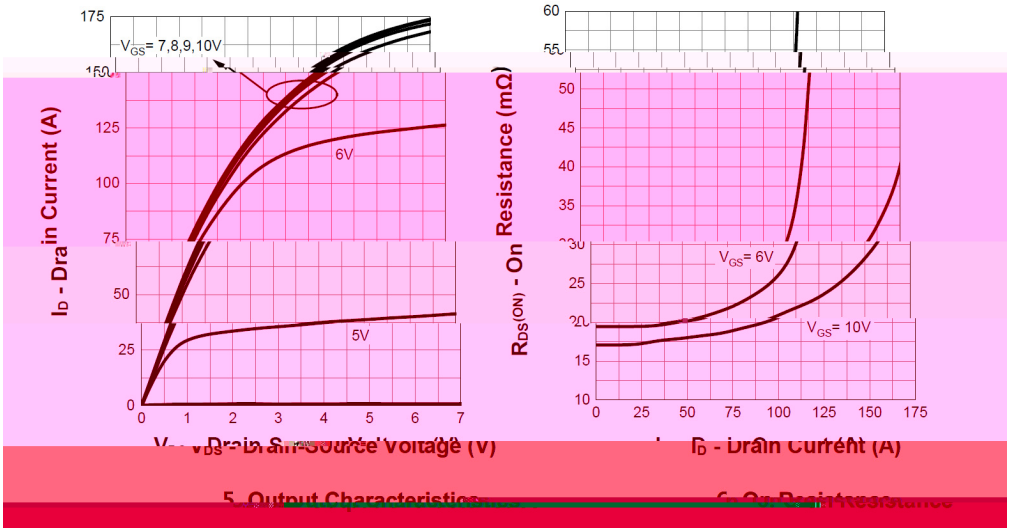
1. Power Capability

2. Current Capability



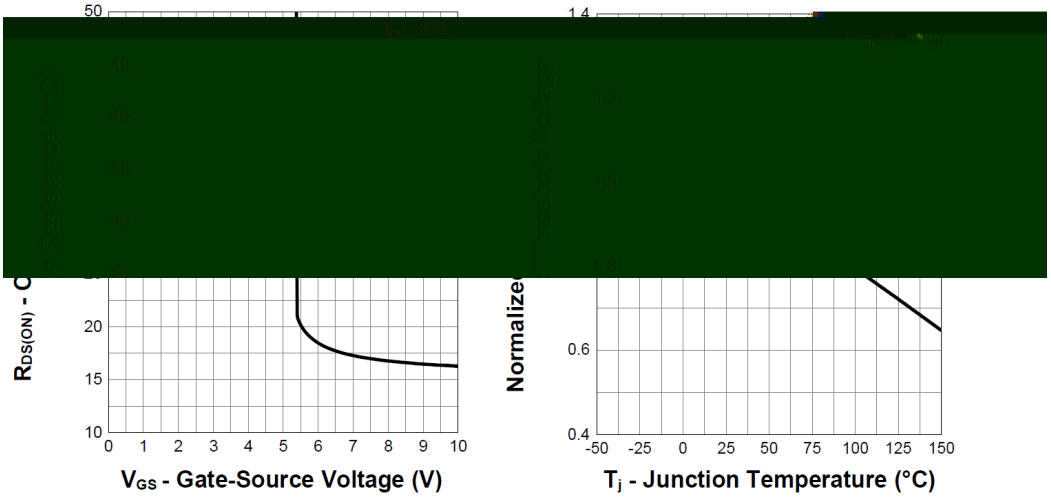
3. Safe Operating Area

4. Transient Thermal Impedance

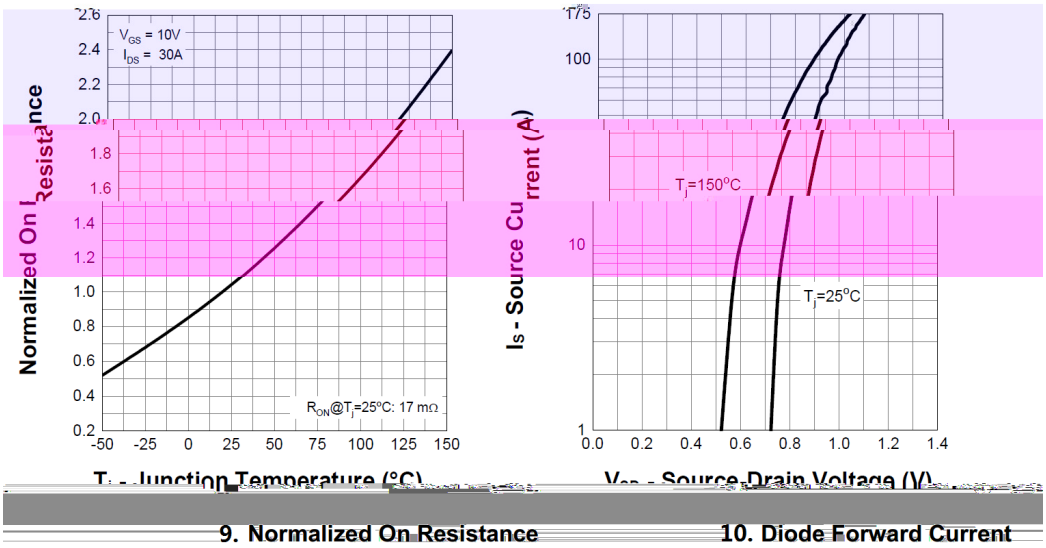


5. Output Characteristics

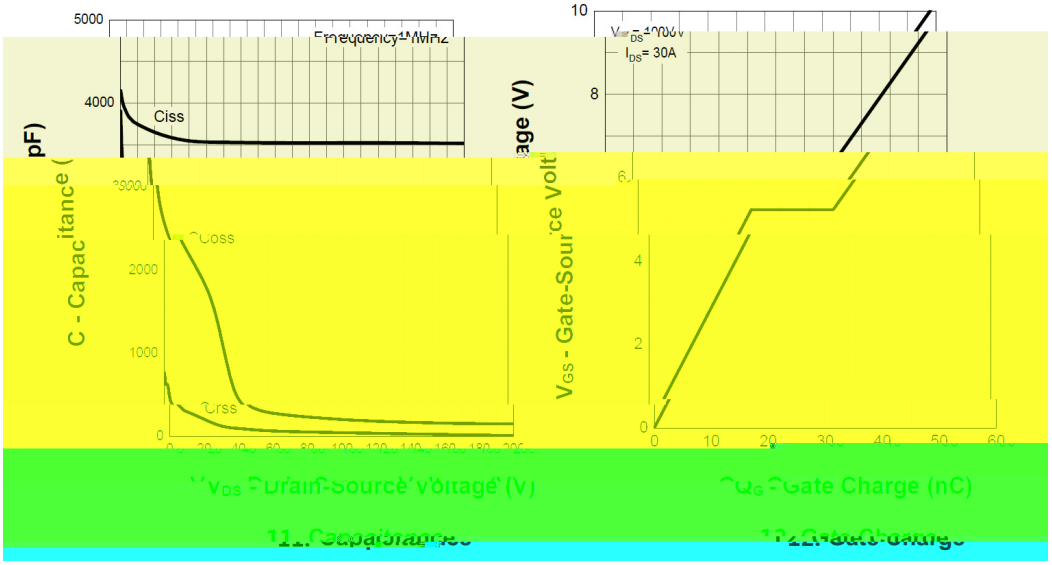
6. On-Resistance



7. Transfer Characteristics　　8. Normalized Threshold Voltage

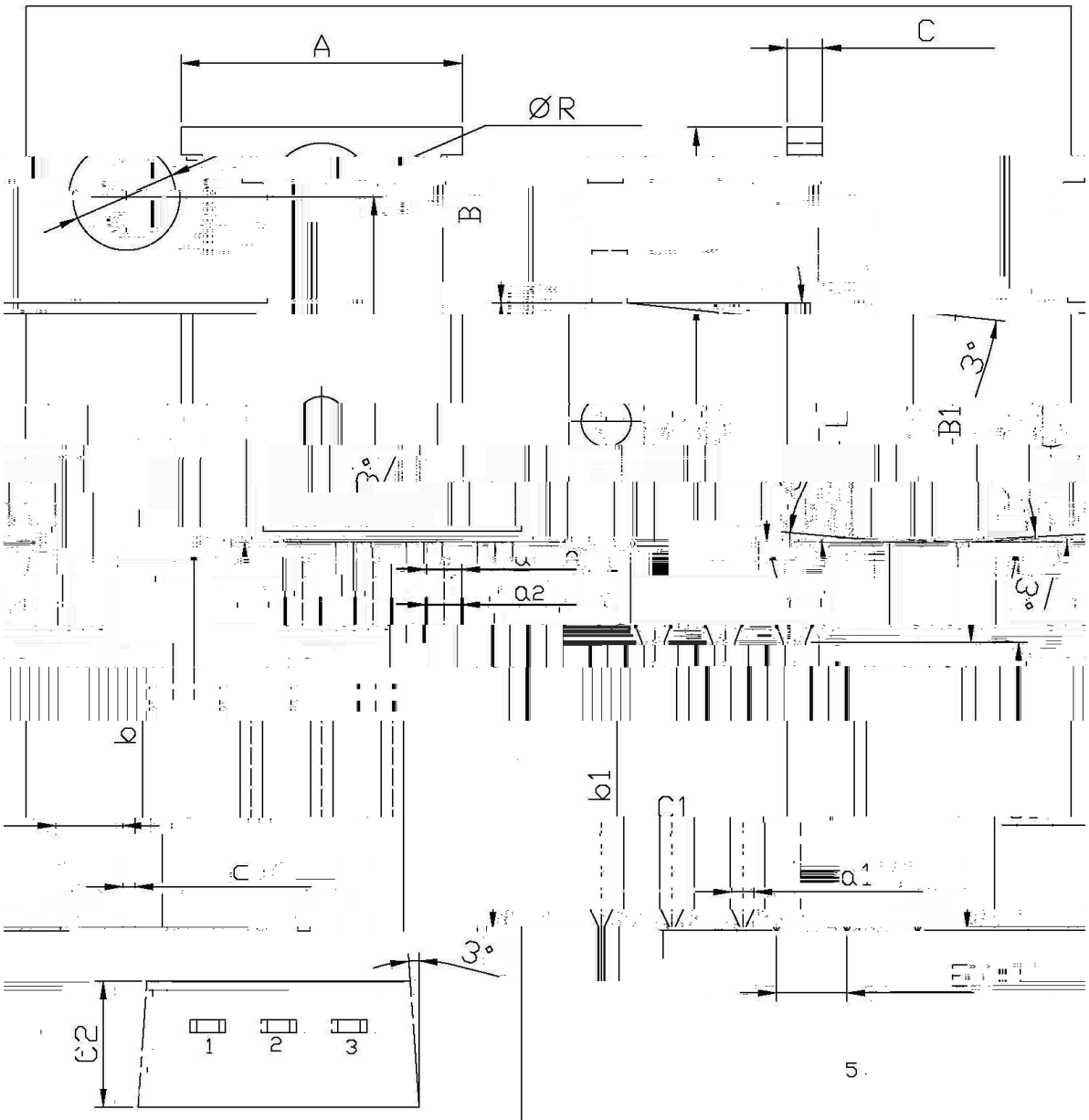


9. Normalized On Resistance　　10. Diode Forward Current

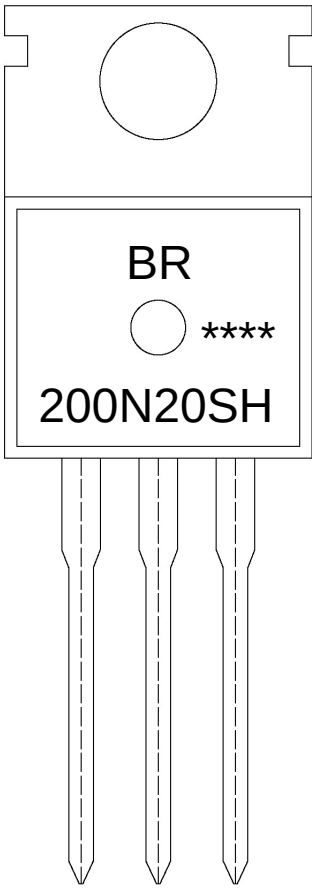


11. Capacitance　　12. Gate Charge

TO-220 单位：mm

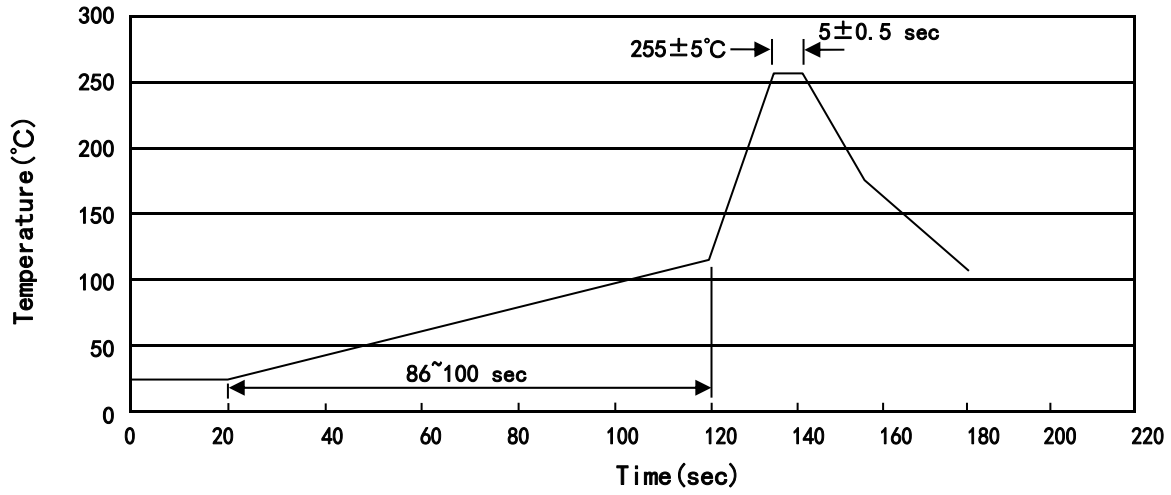


Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
b	12.6	13.6	B1	9.0	9.4
			c1	2.2	2.6



Note:

BR:	Company Code
200N20SH:	Product Type Code
****:	Lot No. Code, code change with Lot No.



Note:

1 25 150 60 90sec;

1.Preheating:25~150 , Time:60~90sec.

2 255 5 5 0.5sec;

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

3 2 10 /sec.

3. Cooling Speed: 2~10 /sec.

270 5 10 1 sec. Temp.:270±5 Time:10±1 sec

/ BULK

Package Type	Units					Dimension		(unit mm³)
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension		(unit mm³)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180