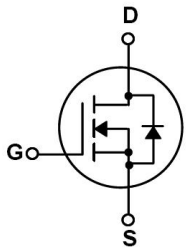
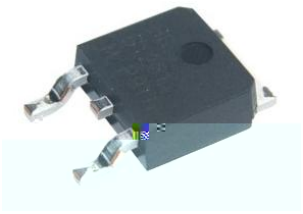
TO-252 N MOS N-CHANNEL MOSFET in a TO-252 Plastic Package.

$R_{DS(on)}$ C_{rss}
Low $R_{DS(on)}$,low gate charge, low C_{rss}, fast speed switching.

DC/DC
Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.





PIN1 G PIN 2

/ Absolute Maximum Ratings(Ta=25)

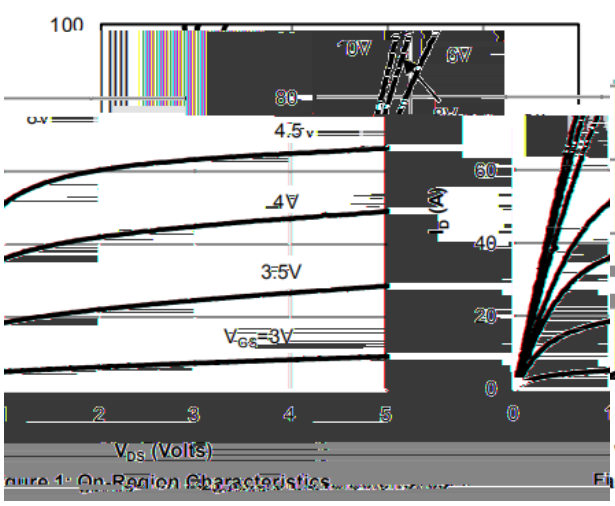
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		I_D(Tc=25)	20	A
Gate-Source Voltage		V_{GS}	±20	V
Avalanche Current		I_{AS}	10.4	A
Single Pulsed Avalanche Energy		E_{AS}	130	mJ
Power Dissipation		P_D(Tc=25)	55	W
Junction Temperature Range		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	
Maximum Junction-to-Ambient	Steady-State	R θ JA	62.7	/W
Maximum Junction-to-Case	Steady-State	R θ JC	2.3	

/ Electrical Characteristics(Ta=25)

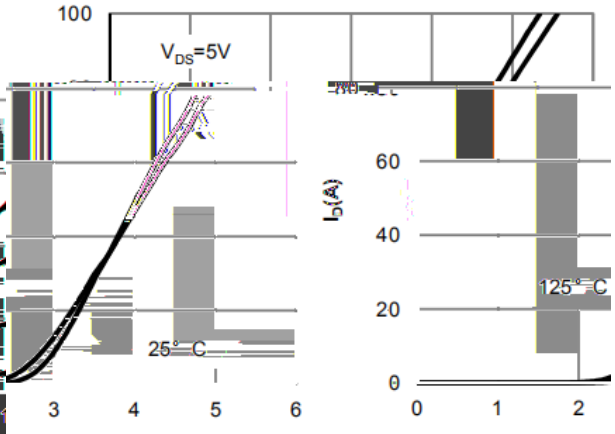
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250 A	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V V_{GS}=0V			1.0	A
		V_{DS}=30V T_J=150			50	
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	A
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20.0A		11	13	m
		V_{GS}=4.5V I_D=10.0A		16	18	m
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	1	1.8	3	V
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_F=1.0A		0.7	1.2	V
Signal Source Resistance	Rg	F=1MHz		1.67		
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		666		pF
Output Capacitance	C_{oss}			26		
Reverse Transfer Capacitance	C_{rss}			63		
Turn-On Delay Time	$t_{d(on)}$	V_{DS}=15V V_{GS}=10V R_L=0.75 R_{GEN}=3.0		7		ns
Turn-On Rise Time	t_r			13.5		
Turn-Off Delay Time	$t_{d(off)}$			18.5		
Turn-Off Fall Time	t_f			4		
Total Gate Charge	$Q_{g(10V)}$	V_{DS}=15V V_{GS}=10V I_D=20.0A		14		nC
Total Gate Charge	$Q_{g(4.5V)}$			6.5		

Gate-Source Charge	Q_{gs}			3		
Gate-Drain Charge	Q_{gd}			2.5		

/ Electrical Characteristic Curve



igure 1: On-Region Characteristics



nsfer Characteristics

Figure 2: Tra

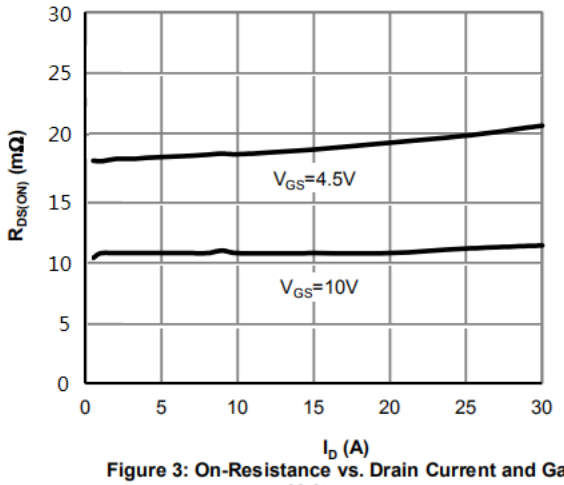


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

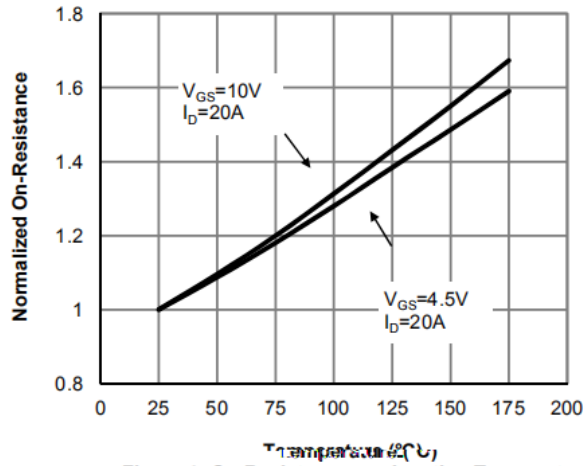
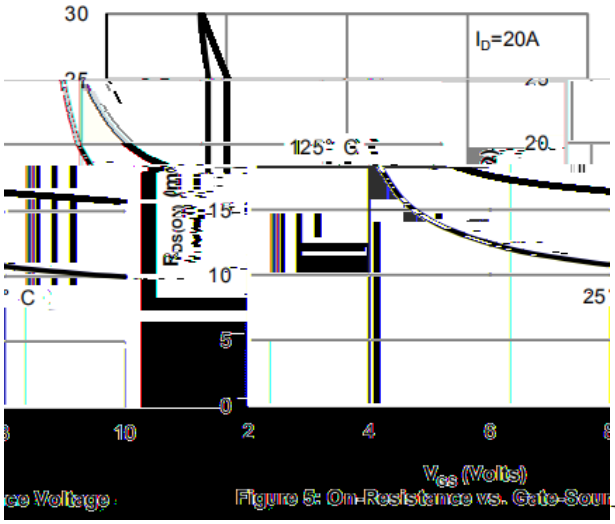


Figure 4: On-Resistance vs. Junction Temperature



ce Voltage

Figure 5: On-Resistance vs. Gate-Sour

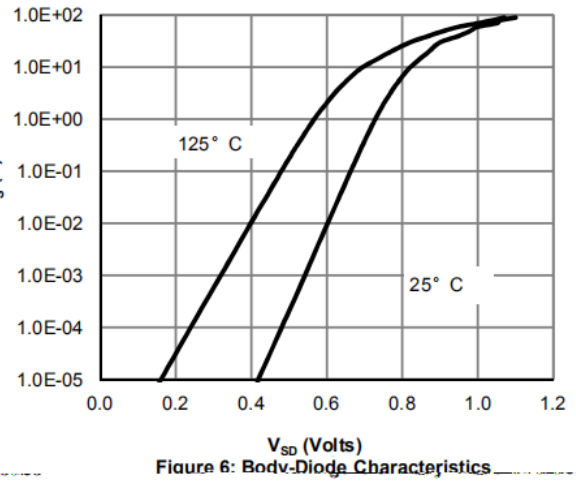
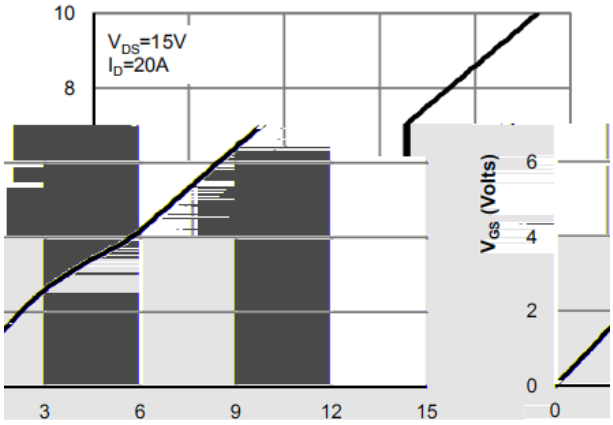


Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve



igure 7: Gate-Charge Characteristics F

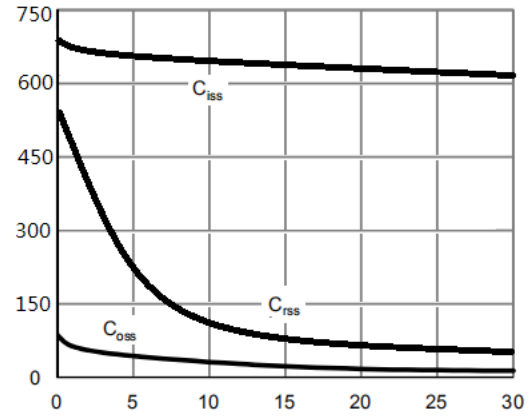
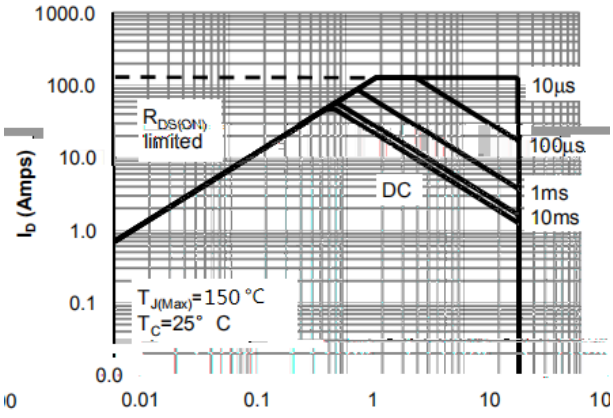


Figure 8: Capacitance Characteristics



V_{GS}> or equal to 4.5V
Figure 9: Maximum Forward Biased Safe Operating Area

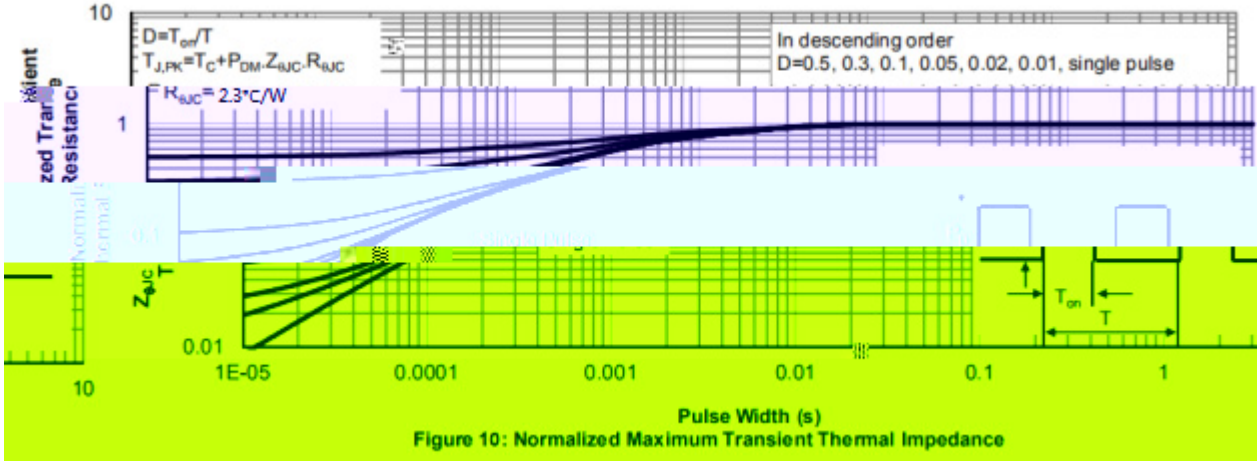
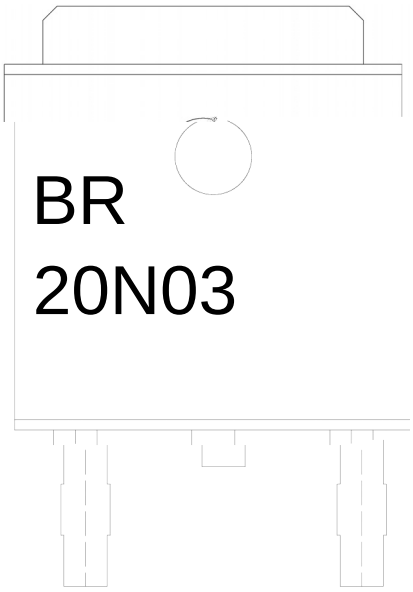


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Marking Instructions



BR

20N03

****

Note:

BR:	Company Code
20N03:	Product Type.
****:	Lot No. Code, code change with Lot No.

šWD t…•Ž¢ (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

ª ¢ y
1o• Ä ½ “ † 25 ½150 - k ž • 60 ½90sec;
2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;
3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:
1.Preheating:25~150 - , Time:60~90sec.
2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.
3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 - ž • y 10 r1 sec.

Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type ß m ù ´	Units g m ô h				Dimension g m d Ê (unit ! mm^3)
	Units/Reel / | í	Reels/Inner Box | í / ç	Units/Inner Box / ç	Inner Boxes/Outer Box	
				îá$ wPr!) ãèÃåá2V)ë(@ êhtIQ[Kt#1%± CEDEcQ HX)/#$ ç	