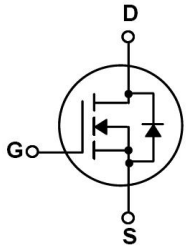
TO-252 N MOS N-CHANNEL MOSFET in a TO-252 Plastic Package.

$R_{DS(on)}$ 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)

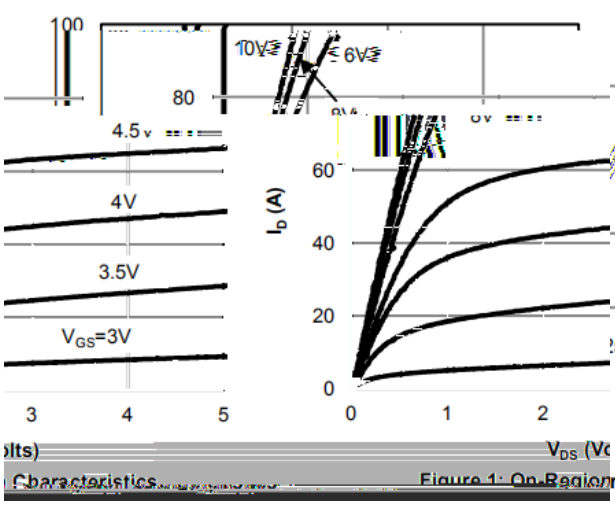
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		I_D(Tc=25)	20	A
Gate-Source Voltage		V_{GS}	±20	V
Avalanche Current		I_{AS}	10.4	A
Single Pulsed Avalanche Energy		E_{AS}	130	mJ
Power Dissipation		P_D(Tc=25)	55	W
Junction Temperature Range		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	
Maximum Junction-to-Ambient	Steady-State	R JA	62.7	/W
Maximum Junction-to-Case	Steady-State	R 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=250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V V_{GS}=0V			1.0	μA
		V_{DS}=30V T_J=150			50	
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	μA
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=20.0A		11	13	mΩ
		V_{GS}=4.5V I_D=10.0A		16	18	mΩ
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	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		Ω
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=0.75Ω R_{GEN}=3.0Ω		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



Characteristics Figure 1: On-Region ristics

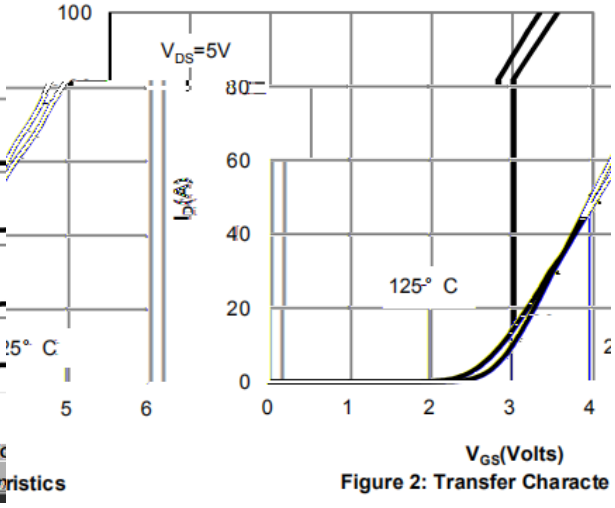


Figure 2: Transfer Characte

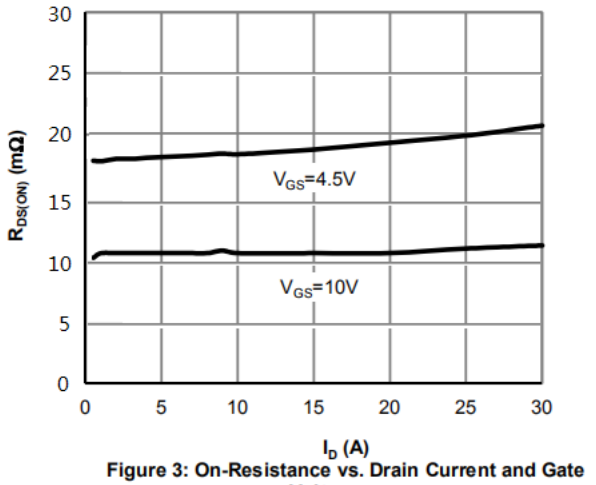


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

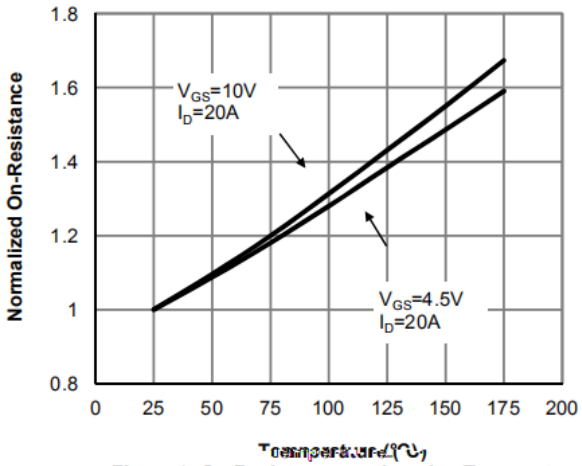
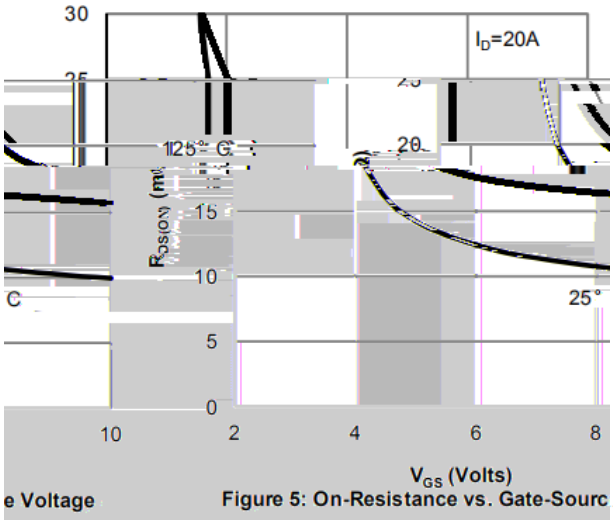


Figure 4: On-Resistance vs. Junction Temperature



e Voltage **Figure 5: On-Resistance vs. Gate-Sourc**

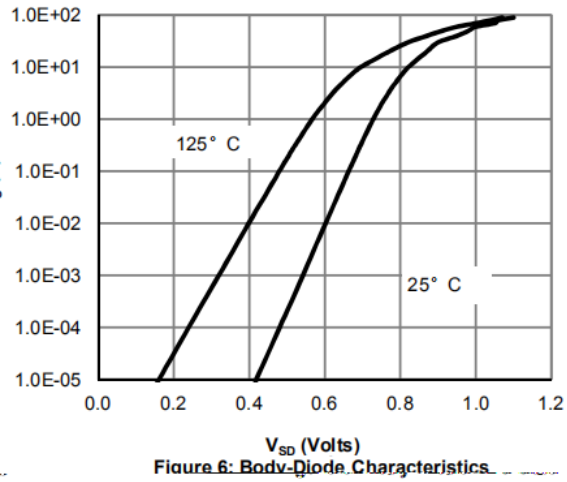


Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve

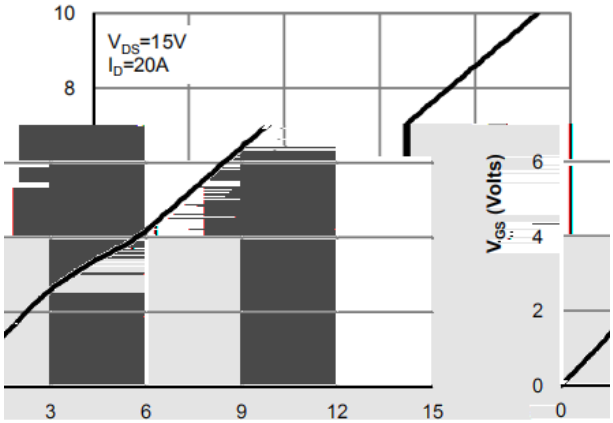


Figure 7: Gate-Charge Characteristics

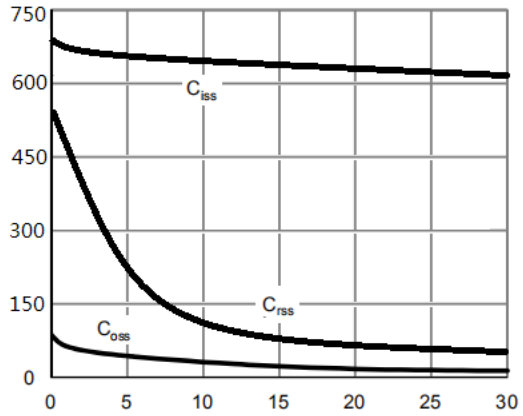
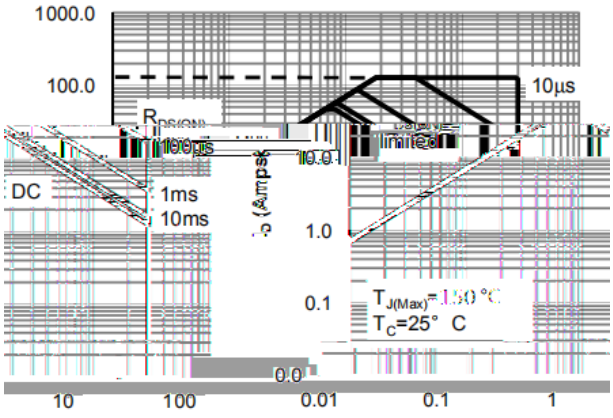


Figure 8: Capacitance Characteristics



4.5V
d Biased Safe
a

V_{GS}> or equal to
Figure 9: Maximum Forwar
Operating Are

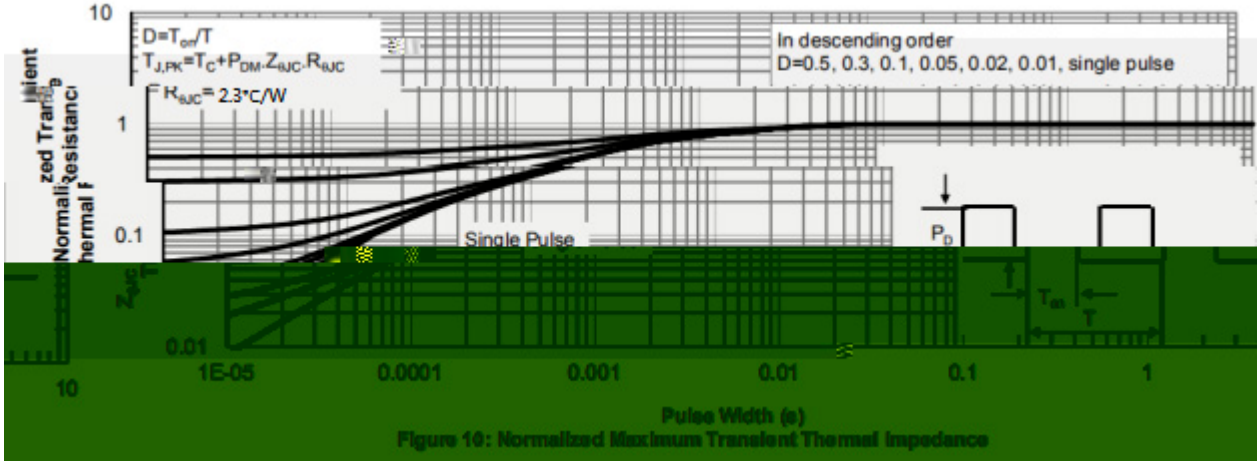
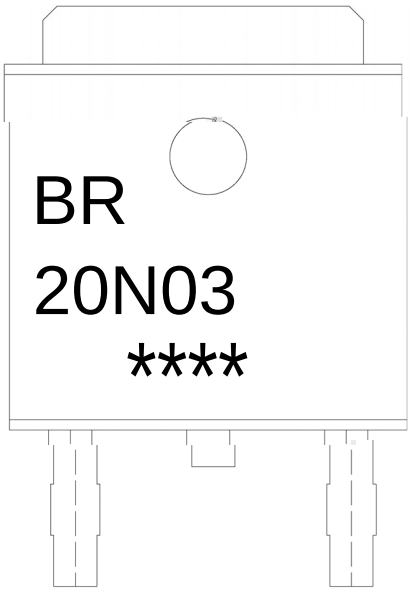


Figure 10: Normalized Maximum Transient Thermal Impedance

/ 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•Ä½“† 25 ½150 - kž• 60 ½90sec;

2o•Q›“† 245 r5 - kž•4Ò 5 r0.5sec;

3o•D Nòi Ò0,† 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 /Cãp¯»] / Resistance to Soldering Heat Test Conditions

“†y 260 r5 - ž•y 10 r1 sec.

Temp.:260±5 Time:10±1 sec

GPá / Packaging SPEC.

2& x / REEL

Package Type ßmù´	Units gmôh				Dimension gmdÊ (unit ! mm[3])
	Units/Reel /|í	Reels/Inner Box |í /ç	Units/Inner Box /ç	Inner Boxes/Outer Box	

á$wƎ,"G'b–À, Xå-o%'v',&Ž8l(ñÑ]ßaqH1,z#" ç±1ó˜ d,"61B@@À