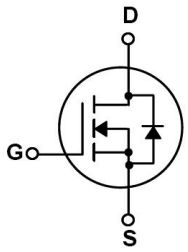
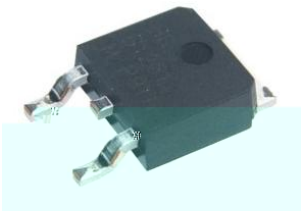
TO-252 N MOS N-CHANNEL MOSFET in a TO-252 Plastic Package.

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

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		

/ Electrical Characteristic Curve

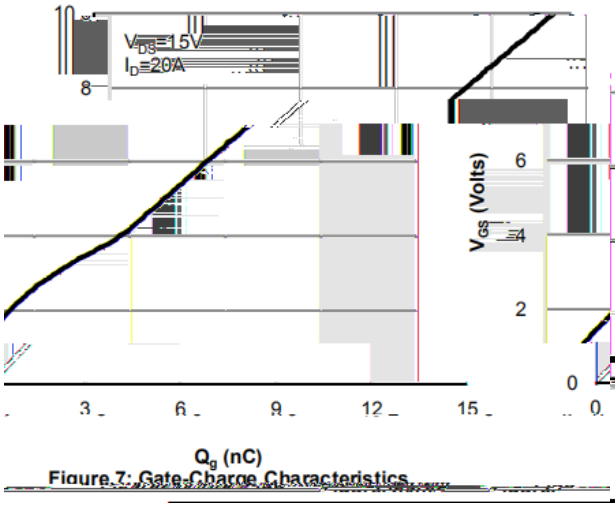


Figure 7: Gate-Charge Characteristics

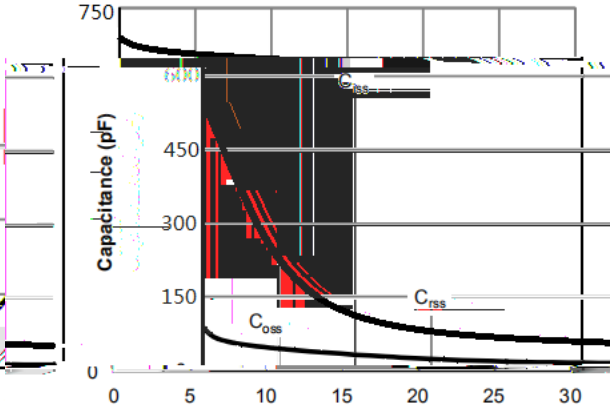
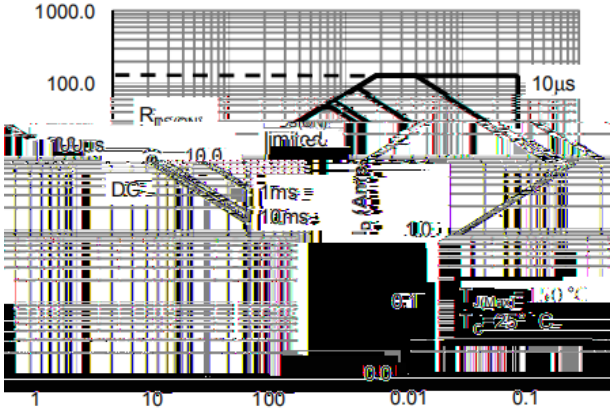


Figure 8: Capacitance Characteristics



Forward Biased Safe ng Area

Figure 9: Maximum Operat

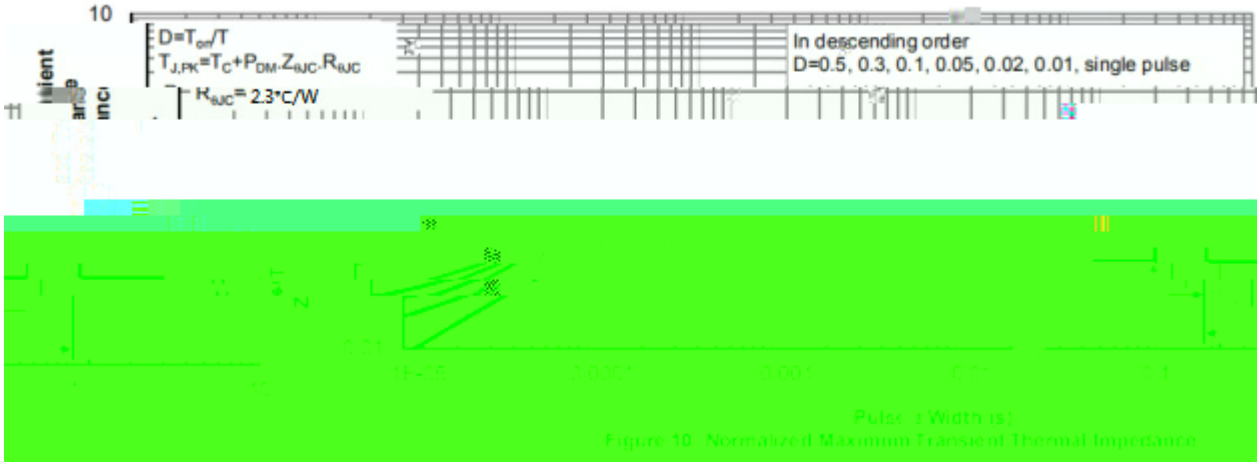
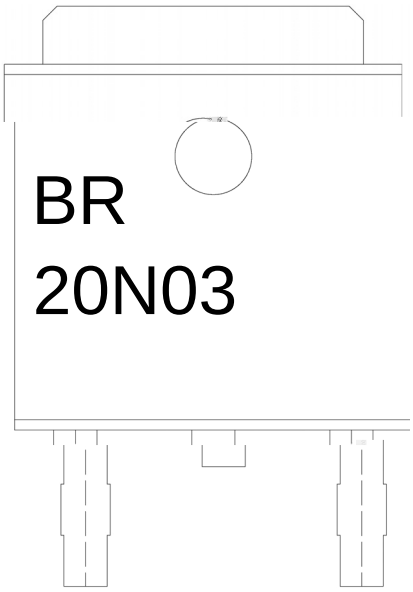


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Marking Instructions



BR

Note:

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