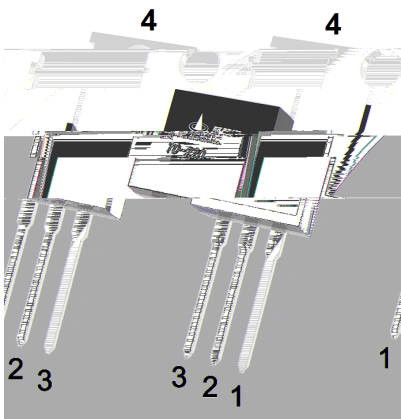
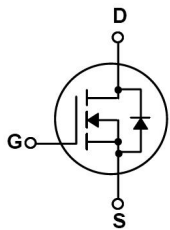


Rev.A Feb.-2023

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

Ultra Low On-Resistance, fast switching.

BMS
 High frequency switching and synchronous rectification, BMS, Motor.



PIN1 G PIN 2 4 D PIN 3 S\

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	100	V
Drain Current		$I_D(T_C=25^\circ\text{C})$	150	A
Pulsed Drain Current		I_{DM}	319	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy($L=0.5\text{mH}$)		E_{AS}	381	mJ
Avalanche Current		I_{AS}	33	A
Total Power Dissipation		$P_D(T_C=25^\circ\text{C})$	180	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	R_{JA}	17	/W
	Steady-State		62.5	
Thermal Resistance-Junction to Case	Steady-State	R_{JC}	0.69	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$ $I_D=250\text{ A}$	100	109		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$ $V_{GS}=0\text{V}$			1	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\text{ A}$	2	2.6	4	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10\text{V}$ $I_D=20\text{A}$		3.2	4.5	m
	$R_{DS(on)2}$	$V_{GS}=6\text{V}$ $I_D=10\text{A}$		4.2	6.5	m
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1\text{A}$			1.2	V

Gate resistance R_g $f=1\text{MHz}$ 1.3



Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $R_L=2.5$ $V_{DS}=50V$ $R_{GEN}=3$		27		ns
Turn-On Rise Time	t_r			20		
Turn-Off Delay Time	$t_{d(off)}$			50		
Turn-Off Fall Time	t_f			25		

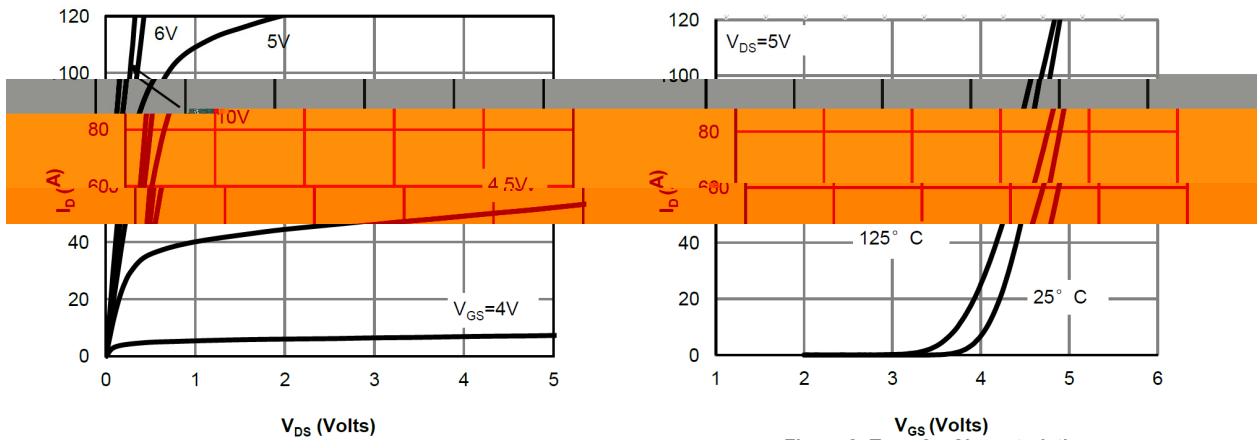


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

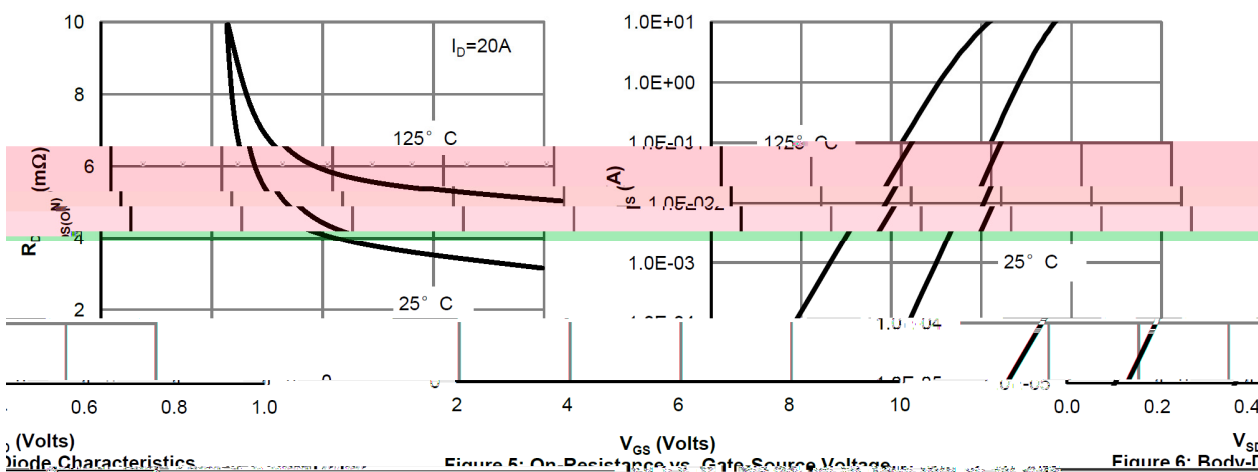
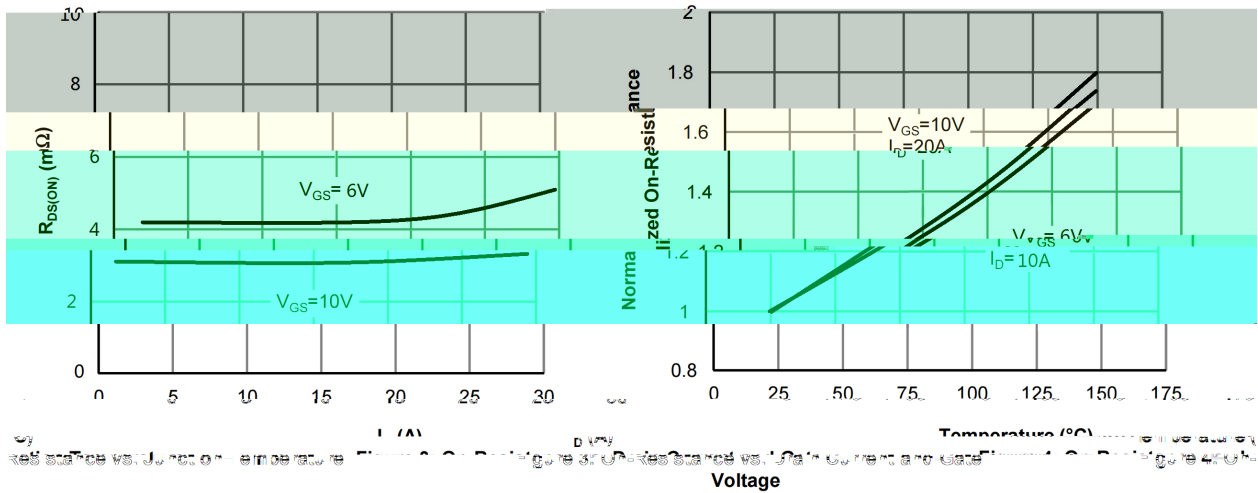


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body Diode Characteristics

