

BRCS2310DMF

Rev.A Jul.-2021



DATA SHEET

VRW5609 M M Q P R V ǰ ǒ Z 1

Dual N-Channel MOSFET in a SOT23-6 Plastic Package.


/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Drain Current – Continuous		I_D	3.0	A
Pulsed Drain Current		I_{DM}	15	A
Power Dissipation		P_D	0.9	W
Storage Temperature Range		T_{stg}	-55 ~ 150	
Maximum Junction-to-Ambient	$t \leq 10s$	$R_{\theta JA}$	60	/W
Maximum Junction-to-Ambient	Steady-State		96	
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	40	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DS}$	$V_{GS}=0$	$I_D=10\mu A$	60	68		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$	$V_{DS}=60V$			1.0	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 20V$	$V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=50\mu A$	1.0	1.8	3.0	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=10V$	$I_D=3A$		84	90	m Ω
	$R_{DS(on)2}$	$V_{GS}=4.5V$	$I_D=3A$		94	110	m Ω
Drain–Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_D=1A$		0.75	1.2	V


/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	Ciss	VGS=0V, VDS=25V f=1MHz		415		pF
Output Capacitance	Coss			37		
Reverse Transfer Capacitance	Crss			25		
Gate resistance	Rg	VGS=0V, VDS=0V f=1MHz		3.4		Ω
Total Gate Charge	Qg(10V)	VGS=10V, VDS=30V ID=4.2A		10	12	nC
Total Gate Charge	Qg(4.5V)			5	6	
Gate Source Charge	Qgs			2		
Gate Drain Charge	Qgd			3		
Turn-On Delay Time	td(on)	VGS=10V, VDS=30V RL=7Ω, RGEN=3Ω			7	ns
Turn-On Rise Time	tr				4	
Turn-Off Delay Time	td(off)				20	
Turn-Off Fall Time	tf				3	

/ Electrical Characteristic Curve

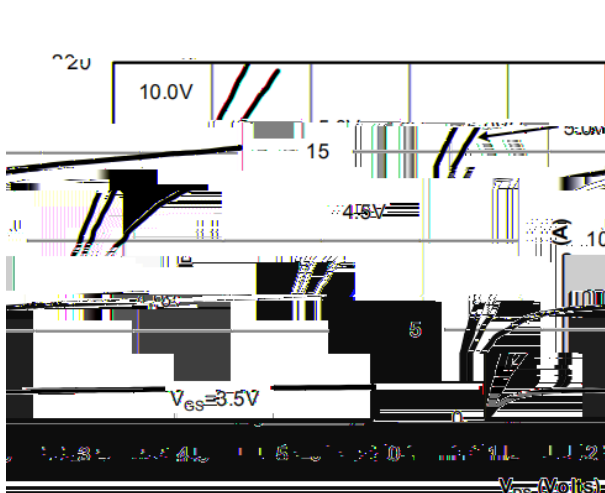


Fig 1: On-Region Characteristics

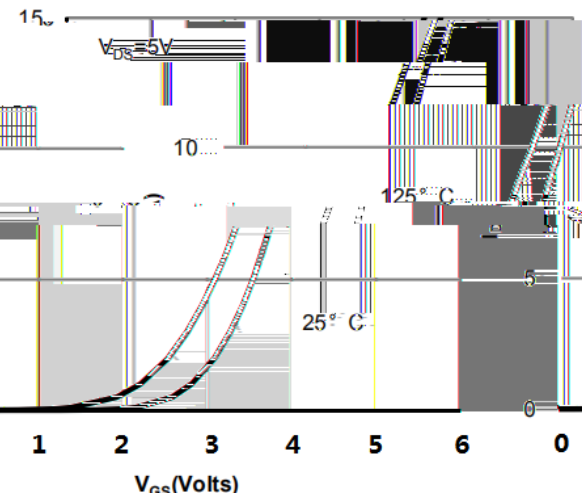


Figure 2: Transfer Characteristics

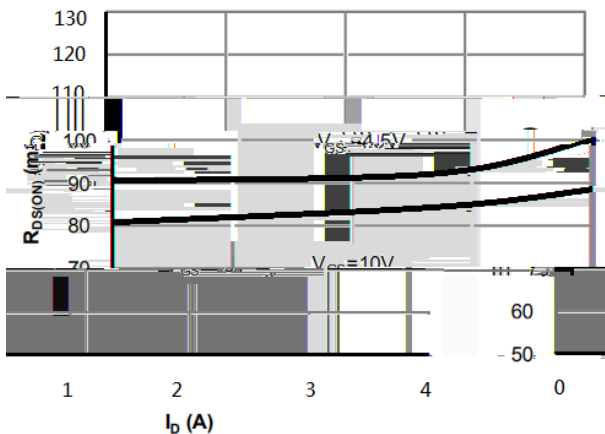


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

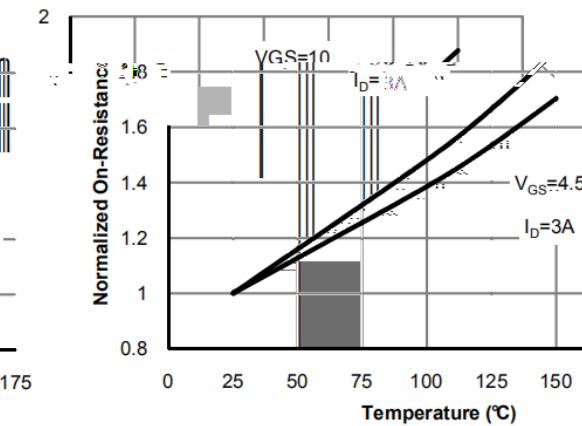


Figure 4: Normalized On-Resistance vs. Temperature

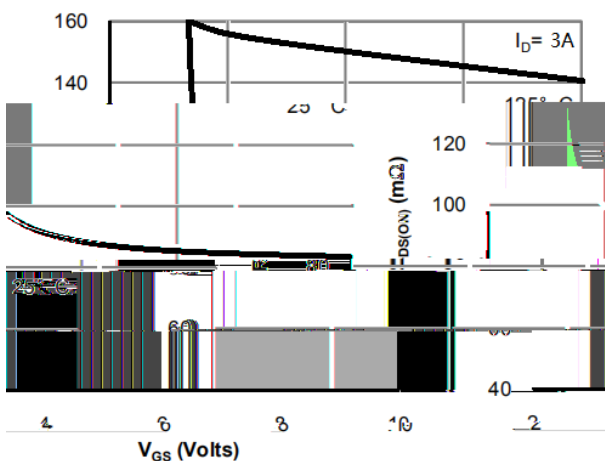


Figure 5: On-Resistance vs. Gate-Source Voltage

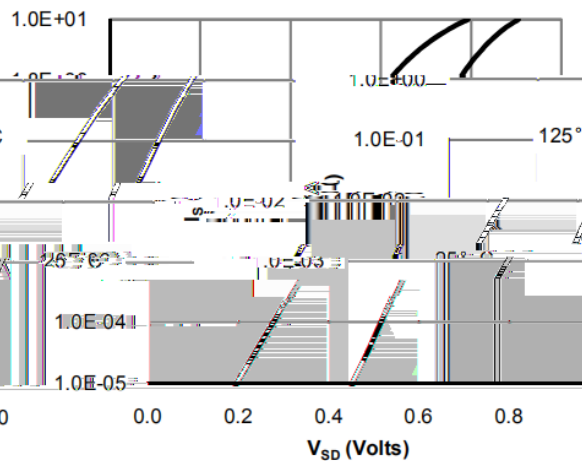
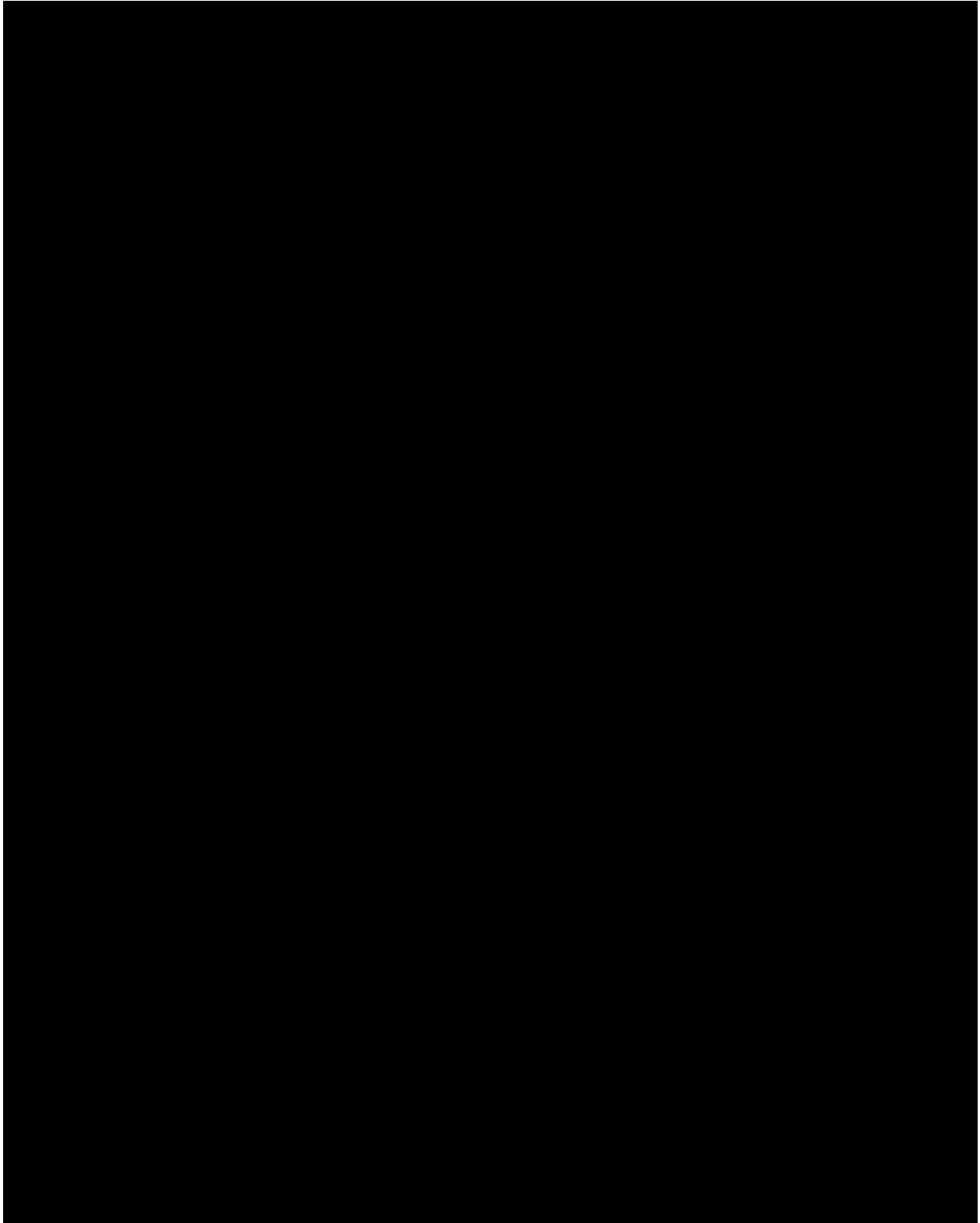
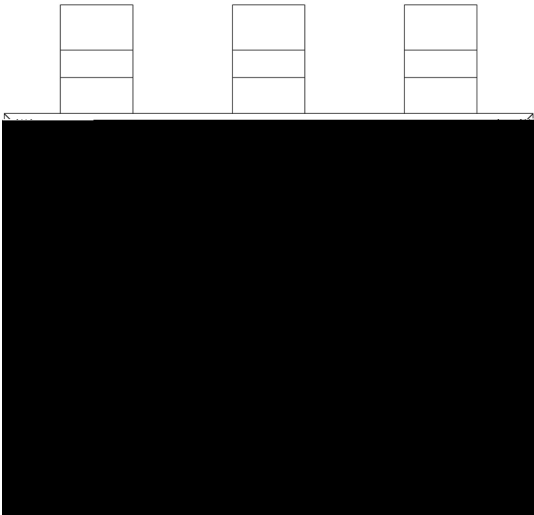


Figure 6: On-Resistance vs. Drain-Source Voltage

/ Package Dimensions



/ Marking Instructions



” X
K X 310 X
310 X **** X

Note:
H X Company Code
310 X Product Type Code
**** X Lot No. Code, code change with Lot No

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

” X

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Note: