BRCS2310DMF

Rev.A Jul.-2021

DATA SHEET

VRW5609 ṂṂꝈ ᴥ Q ڏ PRV ʆ ῷ Ẕ ˥
Dual N-Channel MOSFET in a SOT23-6 Plastic Package.

/ Absolute Maximum Ratings(Ta=25)

v ῼ Parameter		ɣ ᴺ Symbol	ῼӚ Rating	ᴅ Ӈ Unit
Drain-Source Voltage		V_{DSS}	60	V
Gate-Source Voltage		V_{GSS}	±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 ≤ 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)

v ῼ Parameter	ɣ ᴺ Symbol	╜ ፡ᛏ Ʈ Test Conditions		ῳ ṇ Ӛ Min	Ɛ ʒ Ӛ Typ	ῳ ᶻ Ӛ Max	ᴅ Ӈ Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0	I_D=10μA	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}=±20V	V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=50μA	1.0	1.8	3.0	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	V_{GS}=10V	I_D=3A		84	90	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V	I_D=3A		94	110	mΩ
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_D=1A		0.75	1.2	V

/ Electrical Characteristics(Ta=25)

v ῍Ώ Parameter	۲ ᴺ Symbol	╜ ׃↑ ţ Test Conditions	ῳ ņ Ӫ Min	Ɛ ʒ Ӫ Typ	ῳ ᶾ Ӫ Max	ᴅ ɏ 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	$t_{d(on)}$	VGS=10V, VDS=30V RL=7Ω, RGEN=3Ω			7	ns
Turn–On Rise Time	t_r				4	
Turn–Off Delay Time	$t_{d(off)}$				20	
Turn–Off Fall Time	t_f				3	

/ Electrical Characteristic Curve

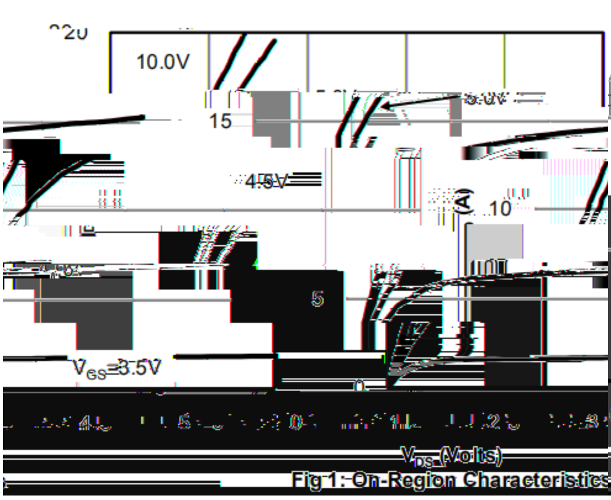


Fig 1: On-Region Characteristics

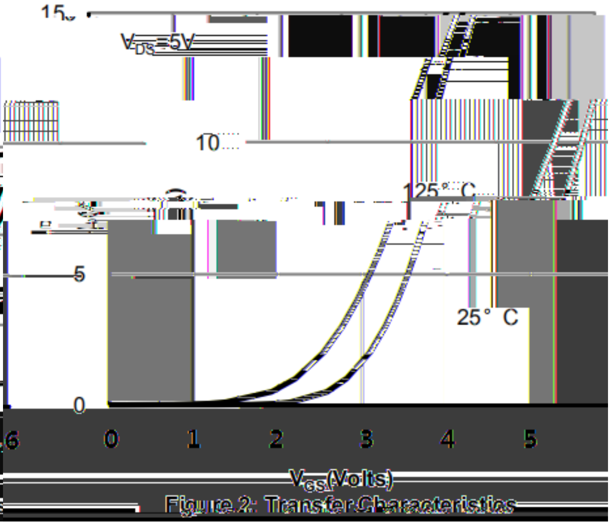


Figure 2: Transfer Characteristics

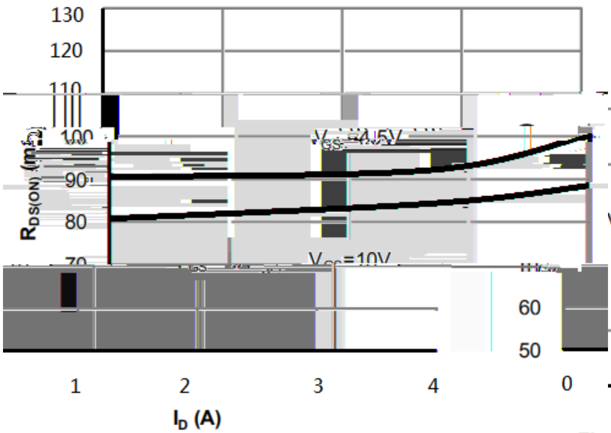


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

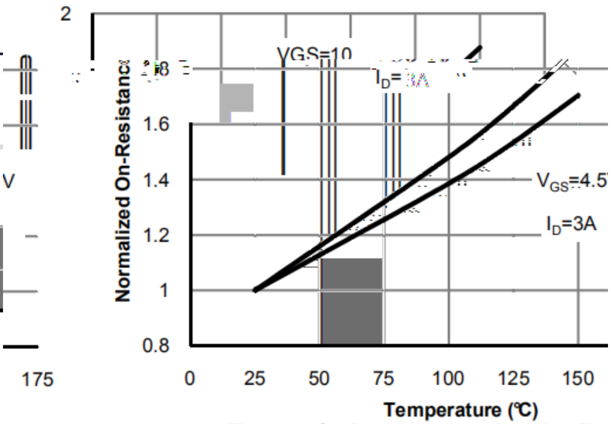


Figure 4: On-Resistance vs. Junction Temperature

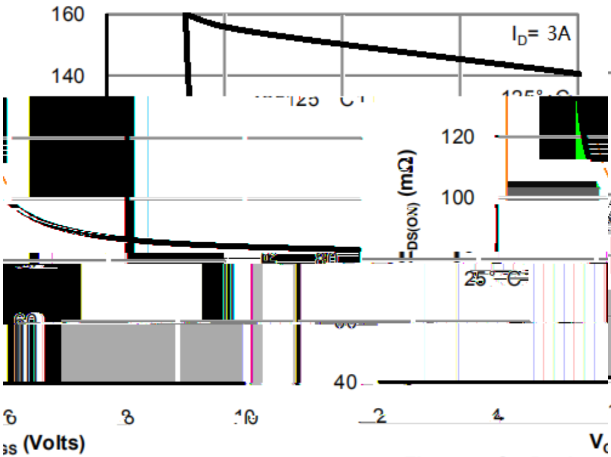


Figure 5: On-Resistance vs. Gate-Source Voltage

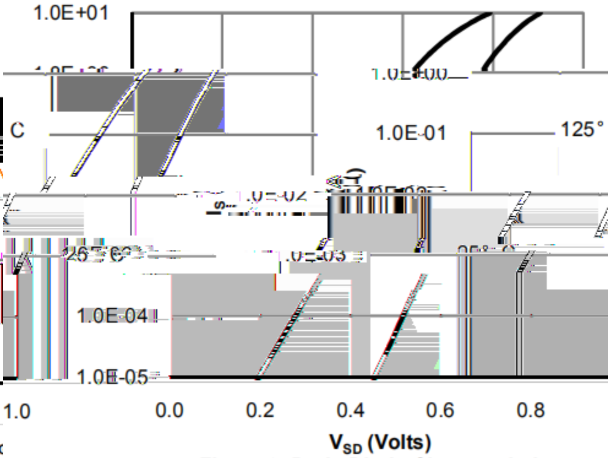
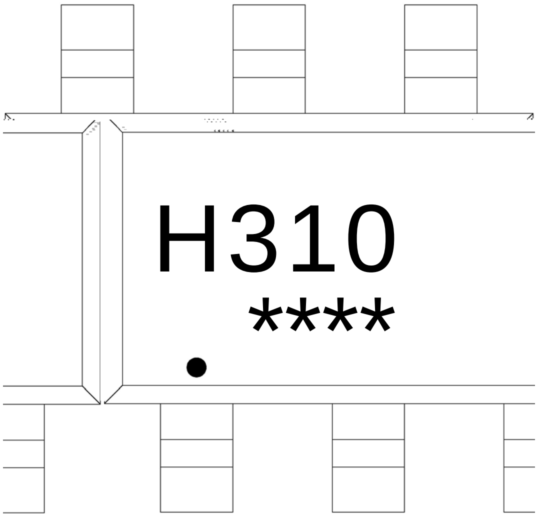


Figure 6: Body Diode Characteristics

/ Package Dimensions

/ Marking Instructions



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Note:

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310 χ	Product Type Code
**** χ	Lot No. Code, code change with Lot No

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

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