

BRCS2321MA
Rev.A Sep.-2022

SOT-23 P
S- CHANNEL MOSFET in a SOT-23 Plastic Package.

H₁ H₂
Ultra Low on-resistance. fast switching.Low on voltage, HF Product.

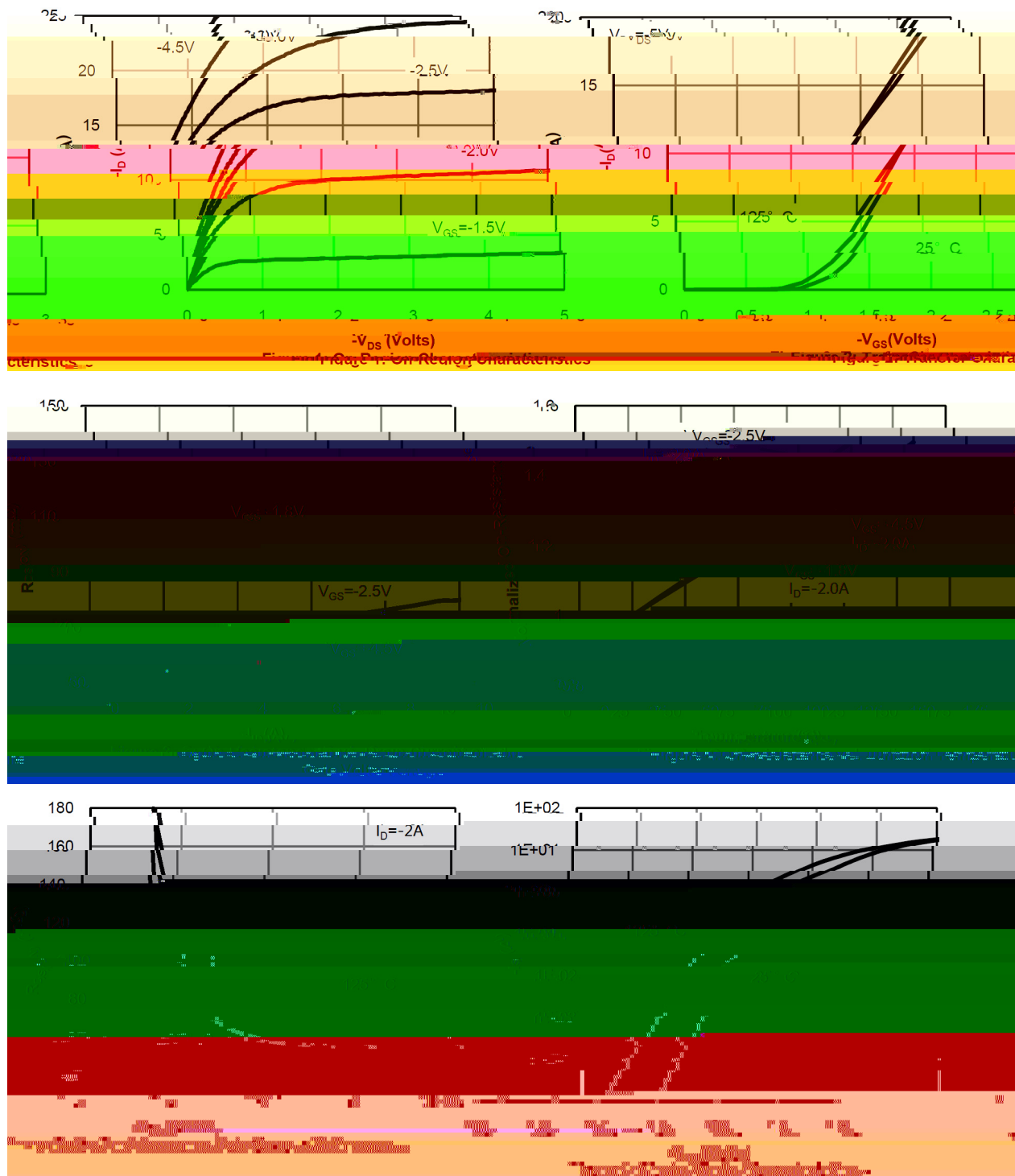
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		N Symbol	Rating	H Unit
Drain–Source Voltage		V _{DSS}	-20	V
Gate–Body Leakage Voltage		V _{GSS}	±12	V
Drain Current – Continuous		I _D	-3	A
Pulsed Drain Current		I _{DM}	-15	A
Power Dissipation		P _D	1.4	W
Operating and Storage Temperature Range		T _J ,T _{STG}	-55 150	
Maximum Junction-to-Ambient	t 10s	R _{JA}	90	/W
Maximum Junction-to-Ambient	Steady-State		125	/W
Maximum Junction-to-Lead	Steady-State	R _{JL}	80	/W

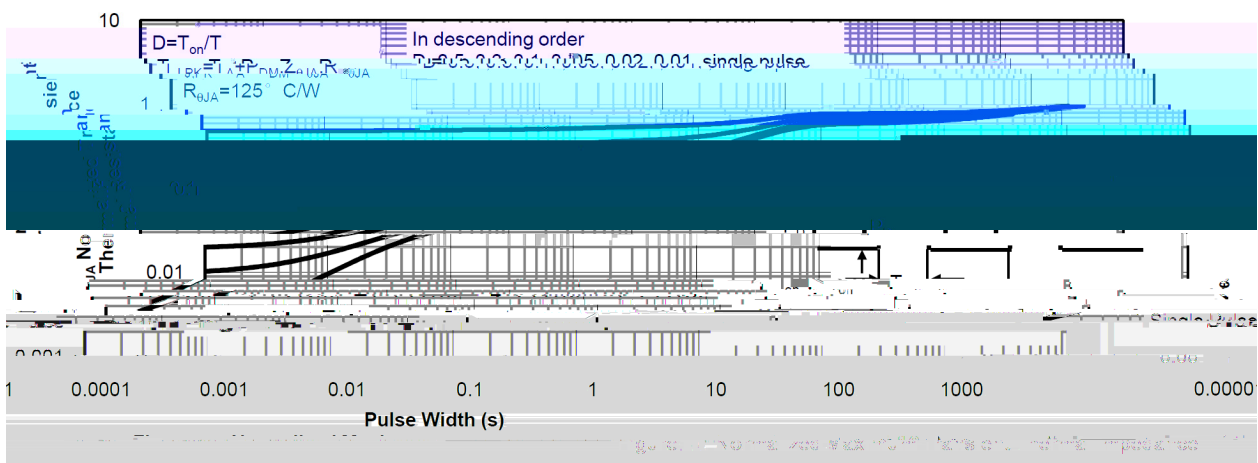
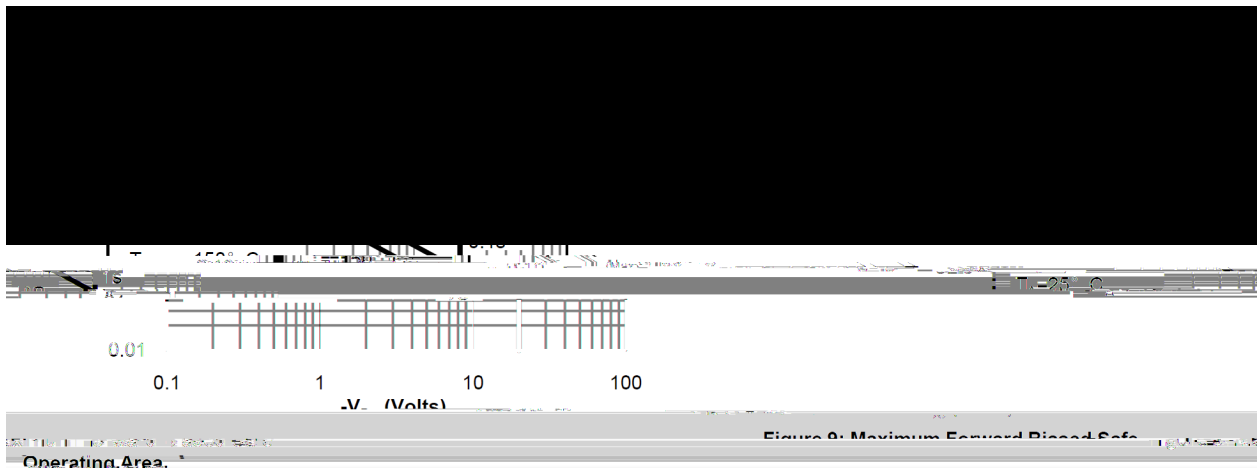
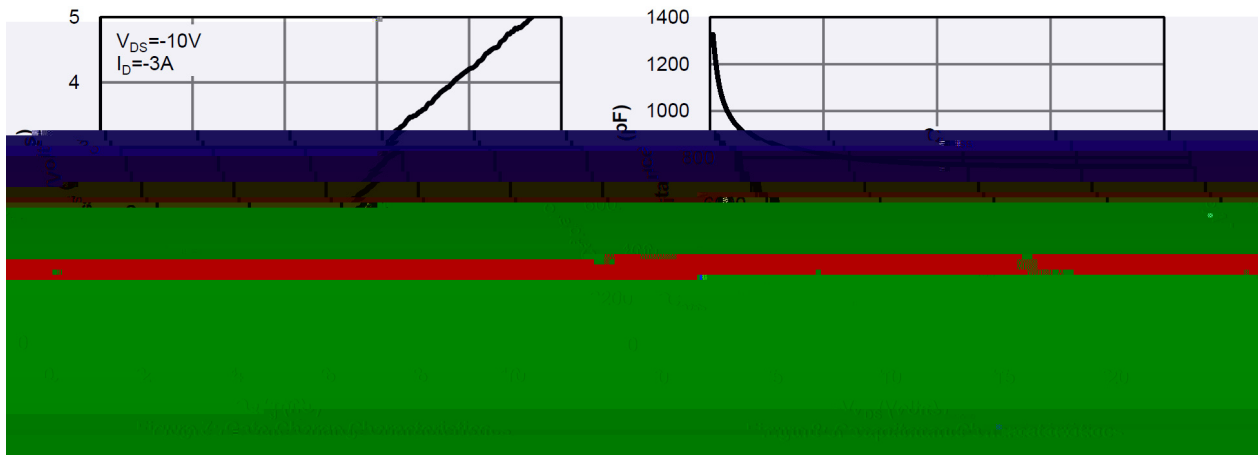
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	N Symbol	Test Conditions	Min	Typ	Max	H Unit
Drain-Source Breakdown Voltage	$V_{(BR)DS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-20	-23		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.4		-1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V$ $I_D=-2A$		56	60	$m\Omega$
		$V_{GS}=-2.5V$ $I_D=-2A$		70	76	$m\Omega$
		$V_{GS}=-1.8V$ $I_D=-2A$		93	110	$m\Omega$
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V$ $V_{GS}=0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 100	nA
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=-1A$ $T_J=25$			-1.2	V
Gate resistance	R_g	$f=1MHz$		7.2		Ω
Input Capacitance	C_{iss}	$V_{DS}=-10V$ $V_{GS}=0V$ $f=1.0MHz$		760		pF
Output Capacitance	C_{oss}			170		
Reverse Transfer Capacitance	C_{rss}			230		
Total Gate Charge	Q_g	$V_{DS}=-10V$ $V_{GS}=-4.5V$ $I_D=-3A$		8.7		nC
Gate-to-Source Charge	Q_{gs}			1.5		
Gate-to-Drain Charge	Q_{gd}			2.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-10V$ $V_{GS}=-4.5V$ $R_L=3.3\Omega$ $R_{GEN}=6\Omega$		7.3		ns
Turn-On Rise Time	t_r			25		
Turn-Off Delay Time	$t_{d(off)}$			54		
Turn-Off Fall Time	t_f			55		

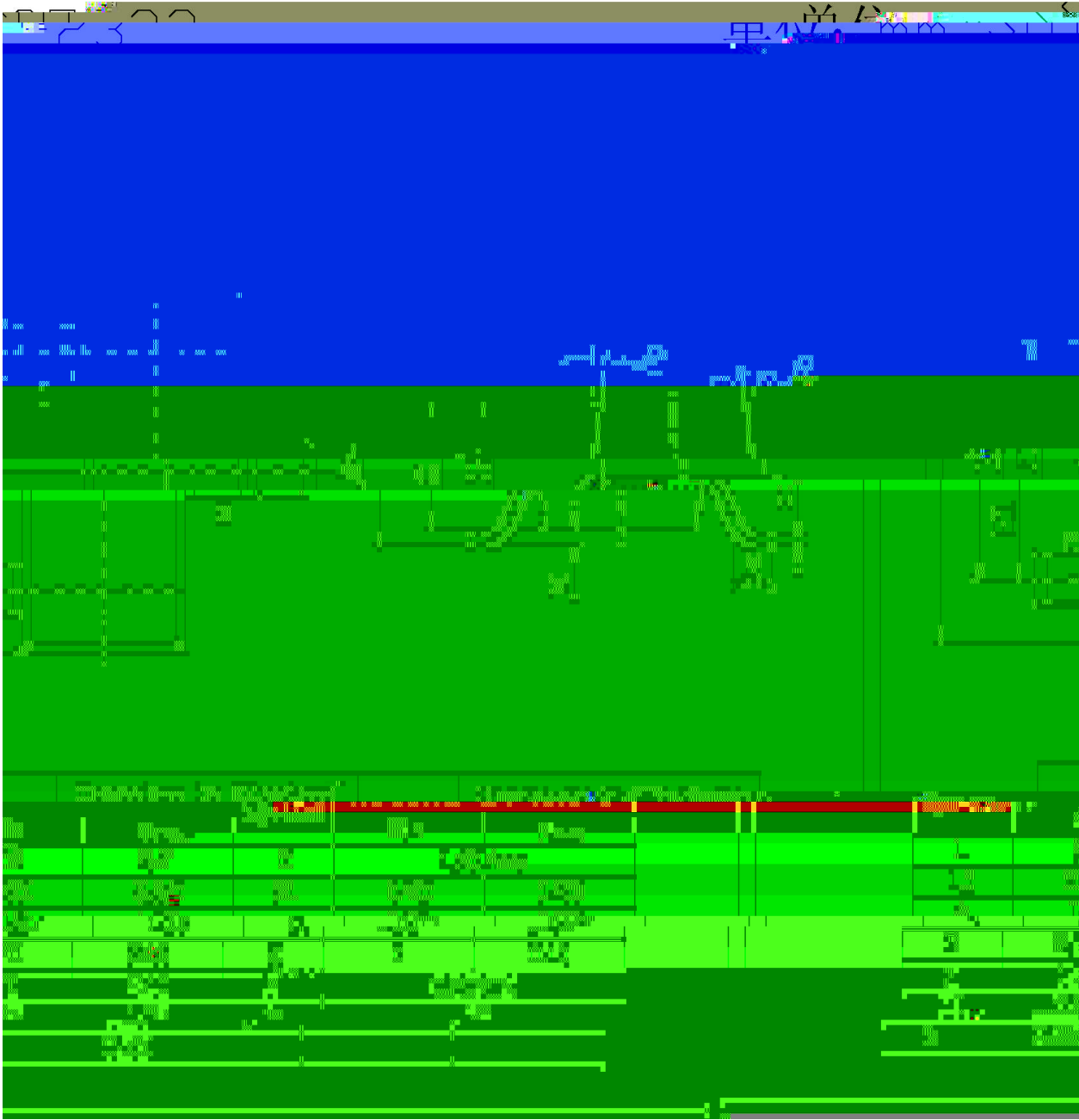
/ Electrical Characteristic Curve

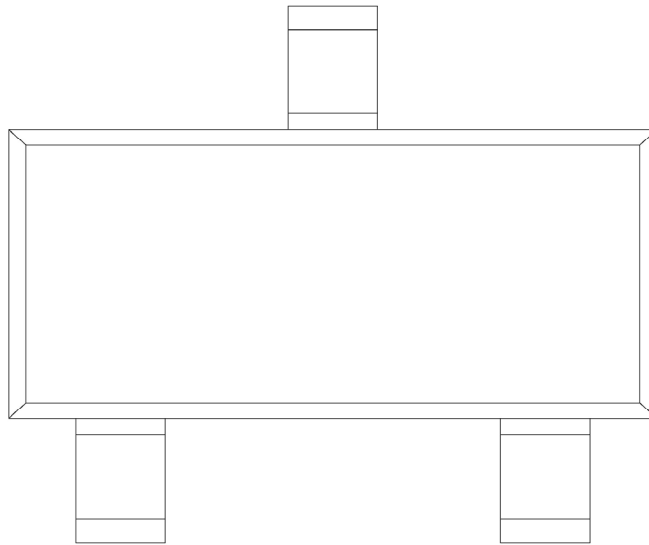


/ Electrical Characteristic Curve



/ Package Dimensions





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

Note:

- | | | | |
|---|---------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | 2 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

/ **Resistance to Soldering Heat Test Conditions**

260±5	10±1 sec.	Temp.:260±5	Time:10±1 sec
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/ **Packaging SPEC.**

/ REEL

Package Type	Units	Dimension	(unit mm ³)
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