

BRCS210P016MC

Rev.A Oct.-2025

/ Descriptions

SOT23-3 P MOS

- CHANNEL MOSFET in a SOT23-3 Plastic Package.

/ Features

$V_{DS} (V) = -16V$ $I_D = -7.0A$

$R_{DS(ON)}@-4.5V(Typ.)=18.7m\Omega$

$R_{DS(ON)}@-2.5V(Typ.)=24.7m\Omega$

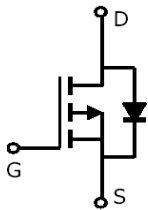
$R_{DS(ON)}@-1.8V(Typ.)=32.7 m\Omega$

HF Product.

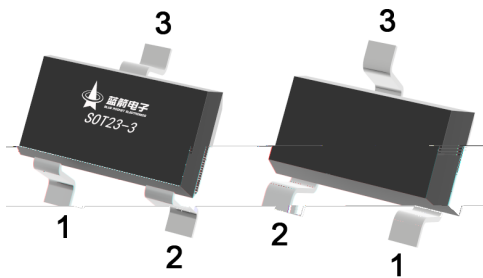
/ Applications

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 S

PIN 3 D

/ Marking

Marking	CBH
---------	-----

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-16	V
Gate-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current	I_D	-7.0	A
Pulsed Drain Current	I_{DM}	-30	A
Power Dissipation for Single Operation	P_D	1.2	W
Maximum Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	100	/W

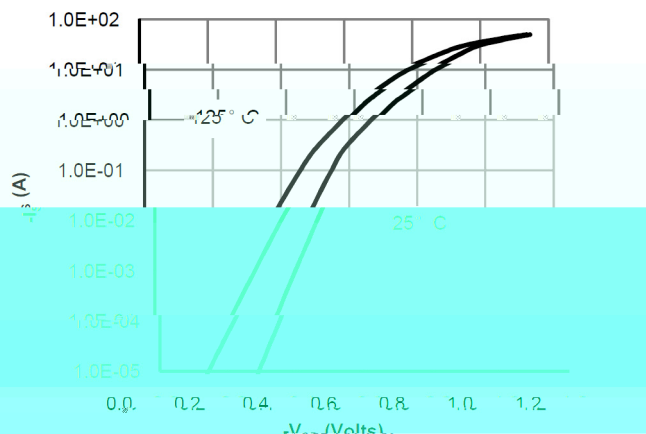
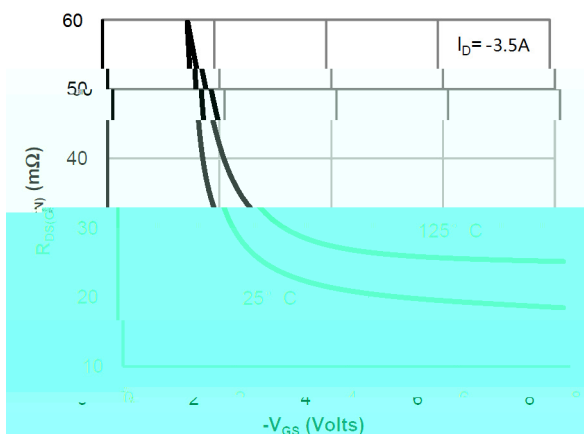
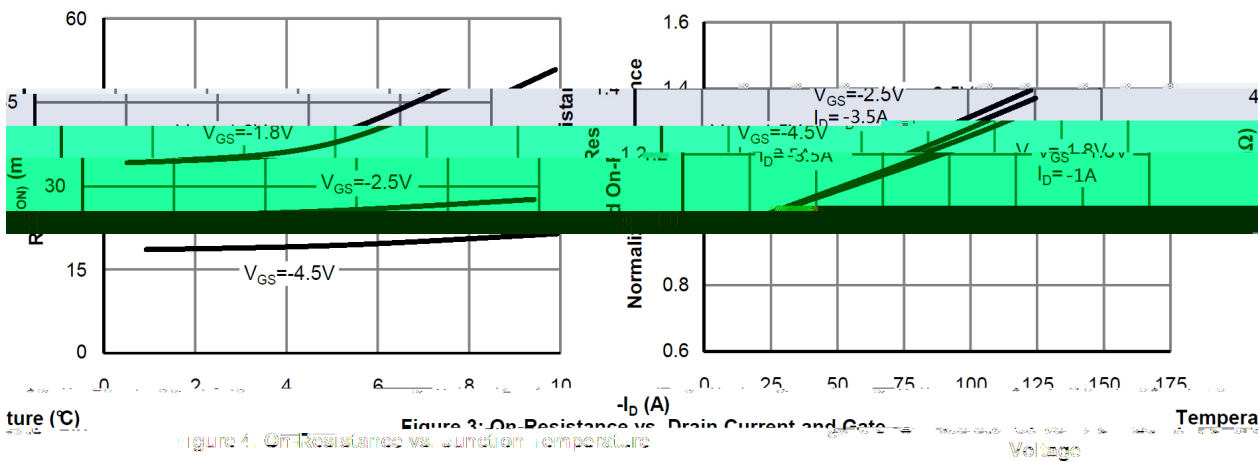
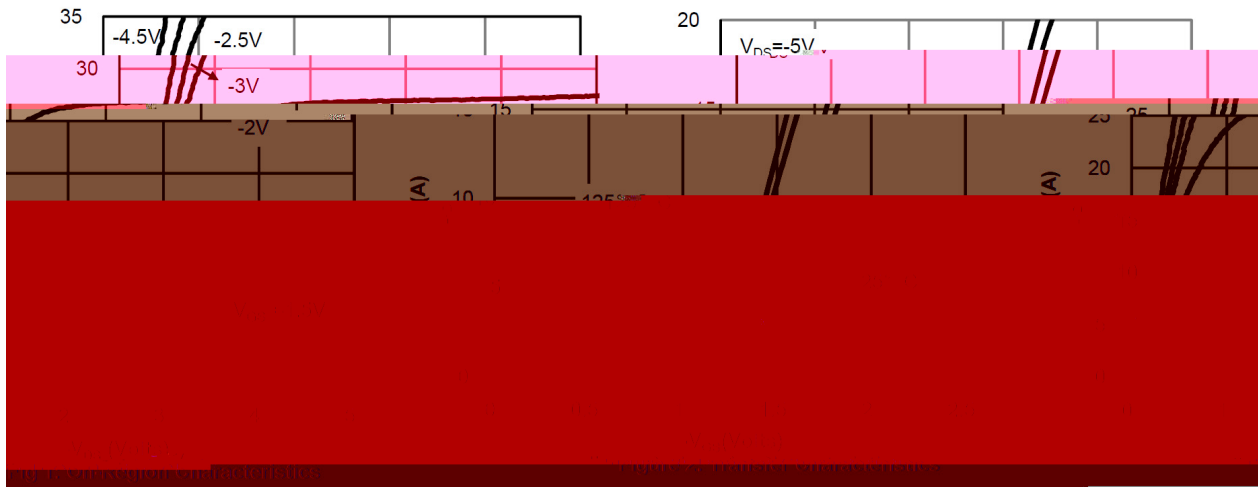
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=-250\mu A$ $V_{GS}=0V$	-16	-18.5		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-12V$ $V_{GS}=0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 12V$			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.3	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V$ $I_D=-3.5A$		18.7	21	m
		$V_{GS}=-2.5V$ $I_D=-3.5A$		24.7	28	
		$V_{GS}=-1.8V$ $I_D=-1A$		32.7	100	
Diode Forward Voltage	V_{SD}	$I_S=-1A$ $V_{GS}=0V$			-1.2	V
Gate resistance	R_g	$V_{GS}=0V$, $f=1MHz$ $V_{DS}=0V$,		8.4		
Input Capacitance	C_{iss}	$V_{GS}=0V$ $V_{DS}=-5V$ $f=1MHz$		1125		pF
Output Capacitance	C_{oss}			260		
Reverse Transfer Capacitance	C_{rss}			195		

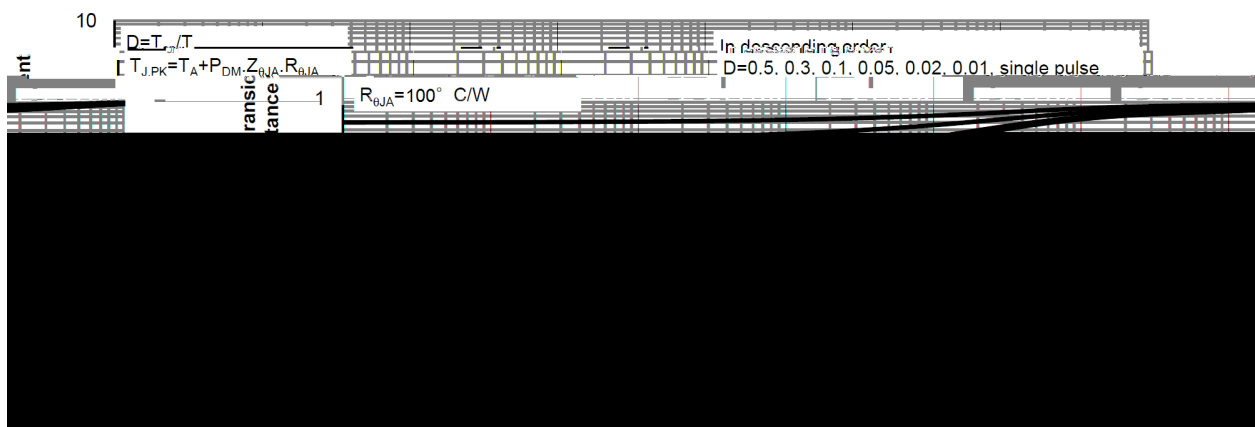
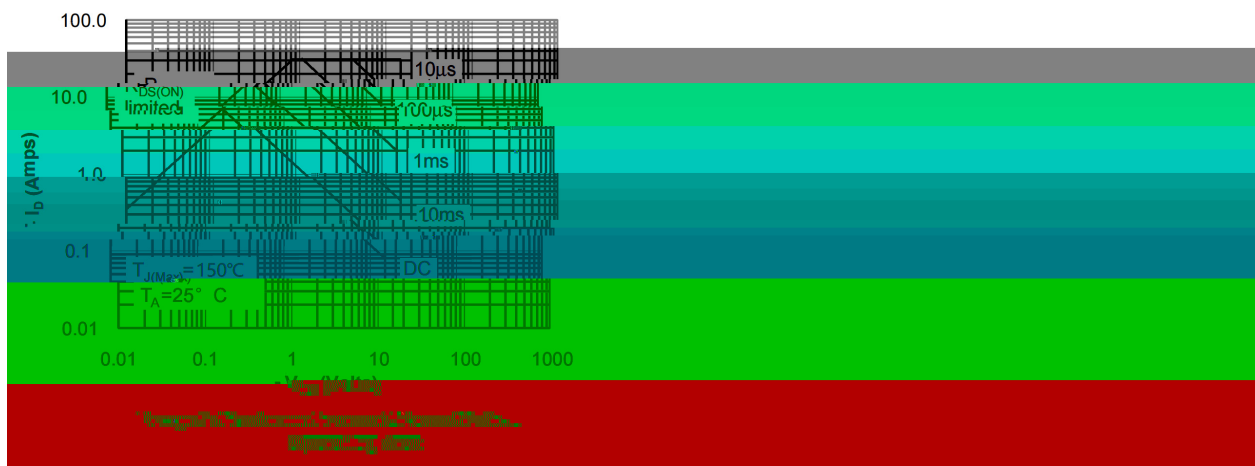
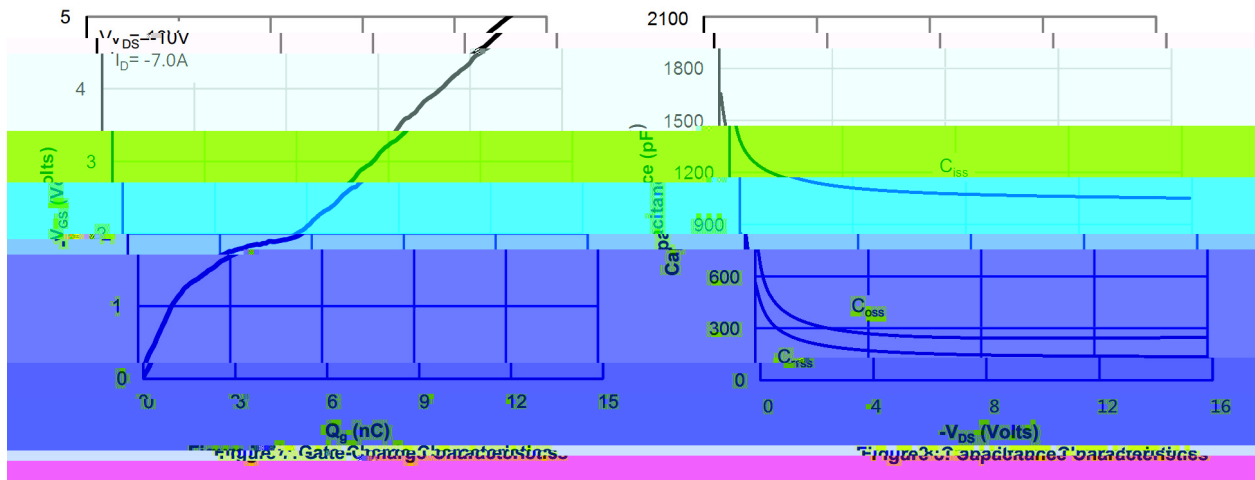
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=-4.5V, \quad V_{DS}=-10V,$ $I_D=-7.0A$		10.4		nC
Gate Source Charge	Q_{gs}			1.1		
Gate Drain Charge	Q_{gd}			2.1		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-4.5V \quad I_D=-7.0A$ $V_{DS}=-10V \quad R_{GEN}=3\Omega$		11.4		ns
Turn-On Rise Time	t_r			49.3		
Turn-Off Delay Time	$t_{d(off)}$			55.9		
Turn-Off Fall Time	t_f			31.6		

/ Electrical Characteristic Curve

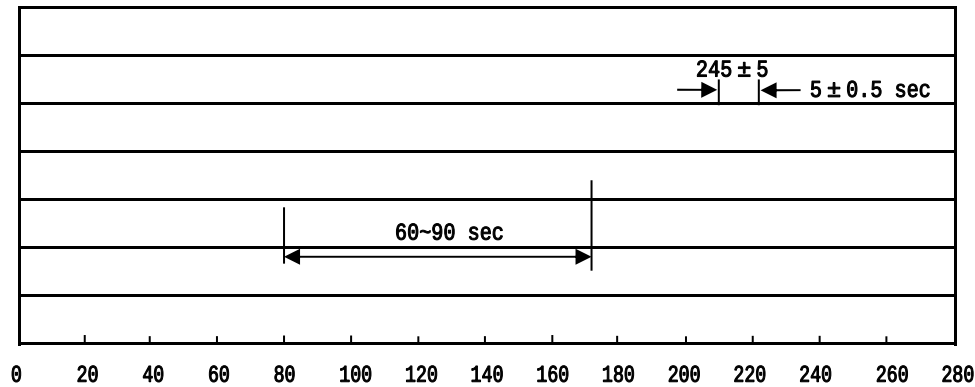


/ Electrical Characteristic Curve



Technical drawing of a microfluidic device showing top and side views with dimensions L, a, 3, 1, B, E, 1, 2, C, F, 0.25 Gauge Plane, 10°-8°, and Unit: mm.

() / 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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT23-3	3,000	10	30,000	4	120,000	7 ×8	210×205×205	445×435×230

/ Notices

All information provided in this document is subject to legal disclaimers.