

BRCS200P016MF

Rev.B Aug.-2025



DATA SHEET

SOT23-6 P MOS

P-CHANNEL MOSFET in a SOT23-6 Plastic Package.

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

$R_{DS(ON)}@-4.5V(Typ.)=16.7m\Omega$

$R_{DS(ON)}@-2.5V(Typ.)=22.5m\Omega$

$R_{DS(ON)}@-1.8V(Typ.)=32.5m\Omega$

HF Product.

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

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-16	V
Gate-Source Voltage	V_{GS}	± 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($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$I_D=-250\mu\text{A}$ $V_{GS}=0\text{V}$	-16	-17		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-12.8\text{V}$ $V_{GS}=0\text{V}$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$ $V_{GS}=\pm 12\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu\text{A}$	-0.5	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5\text{V}$ $I_D=-3.5\text{A}$		16.7	20	m Ω
		$V_{GS}=-2.5\text{V}$ $I_D=-3.5\text{A}$		22.5	25	
		$V_{GS}=-1.8\text{V}$ $I_D=-1\text{A}$		32.5	100	
Diode Forward Voltage	V_{SD}	$I_S=-1\text{A}$ $V_{GS}=0\text{V}$			-1.2	V
Gate resistance	R_g	$V_{GS}=0\text{V}$, $f=1\text{MHz}$ $V_{DS}=0\text{V}$		5.8		Ω
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$ $V_{DS}=-5\text{V}$ $f=1\text{MHz}$		1350		pF
Output Capacitance	C_{oss}			290		
Reverse Transfer Capacitance	C_{rss}			250		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=-4.5V, \quad V_{DS}=-10V,$ $I_D=-7.0A$		13.2		nC
Gate Source Charge	Q_{gs}			1.5		
Gate Drain Charge	Q_{gd}			3.6		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-4.5V \quad I_D=-7.0A$ $V_{DS}=-10V \quad R_{GEN}=3\Omega$		13.7		ns
Turn-On Rise Time	t_r			47.6		
Turn-Off Delay Time	$t_{d(off)}$			43.1		
Turn-Off Fall Time	t_f			29.5		

/ Electrical Characteristic Curve

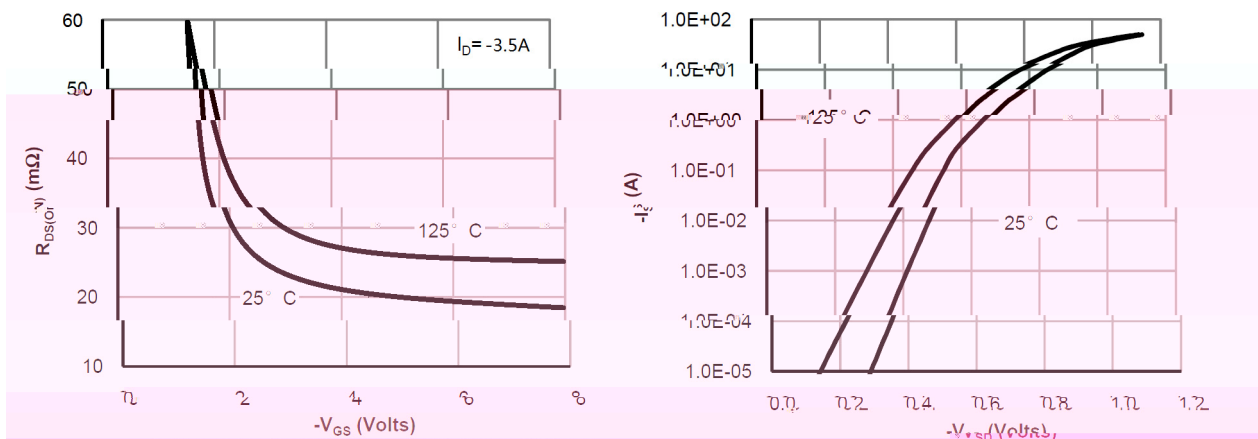
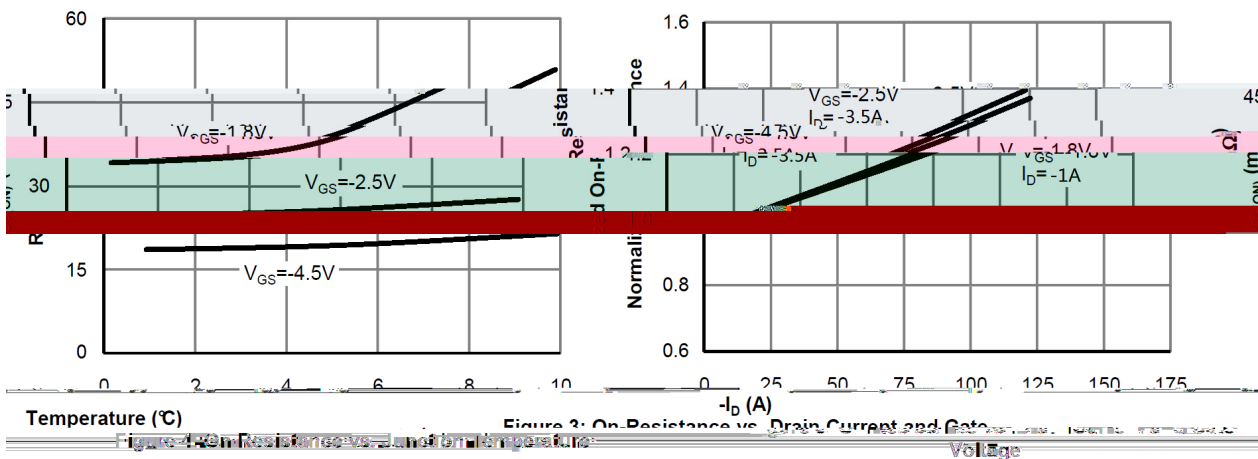
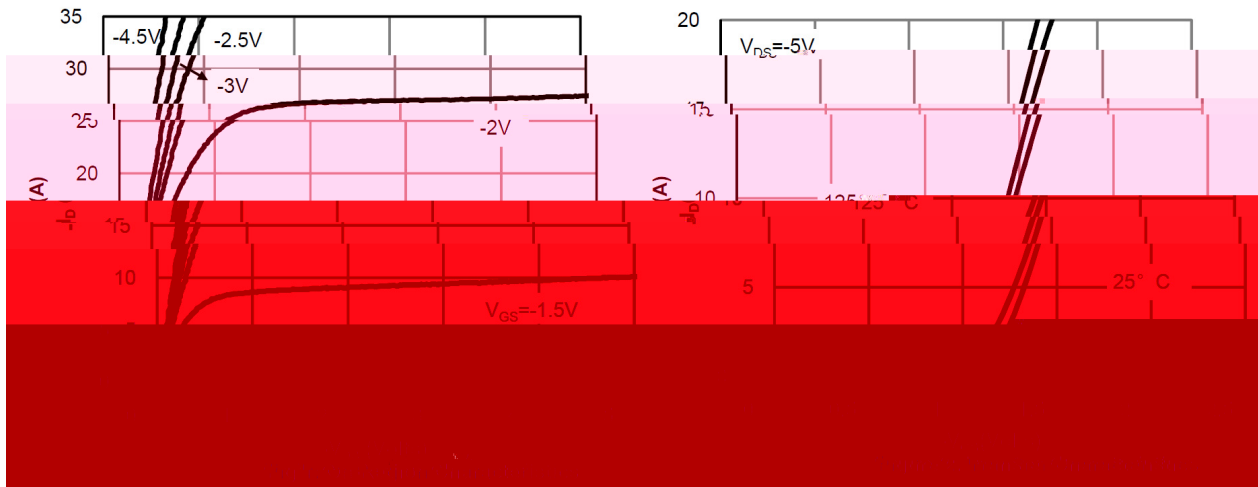
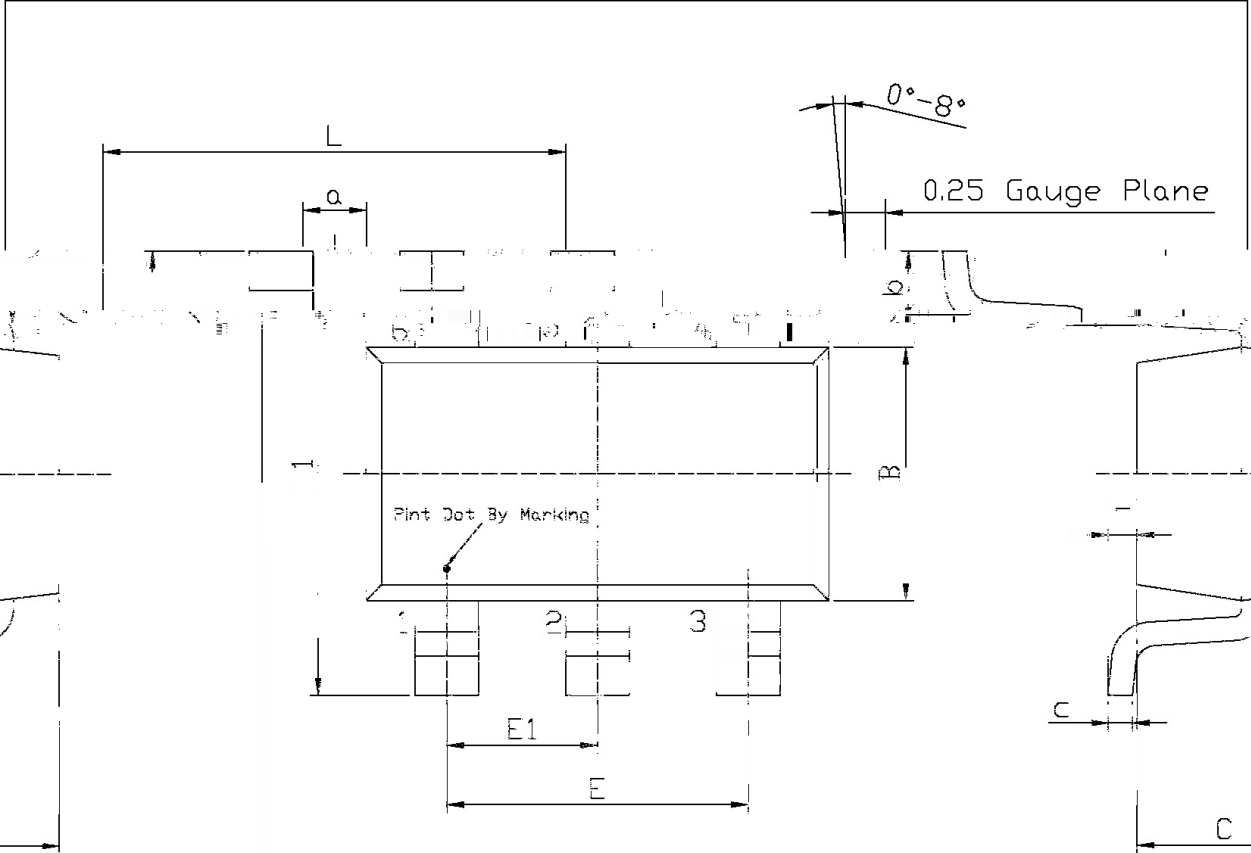


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

/ Package Dimensions



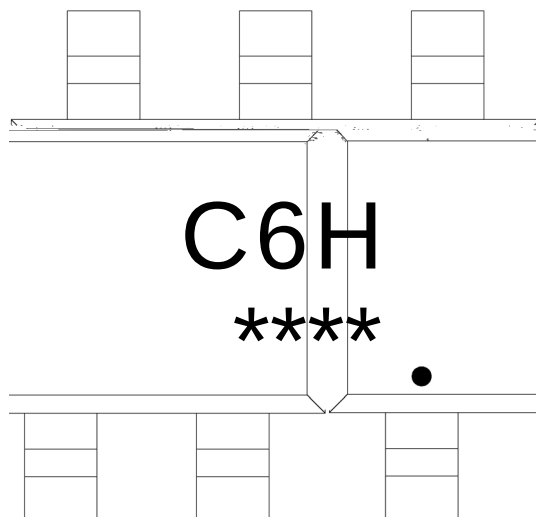
Unit: mm

Dimensions In Millimeters			Unit		
Symbol	Min	Max	Symbol	Min	Max
L	2.82	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

SOT23-6



/ Marking Instructions



C6

H

Note:

C6: Product Type Code

H: Company Code

**** Lot No. Code, code change with Lot No.

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

Note:

1 150