

BRCS5P06MF

Rev.B Oct.-2022

5 / Descriptions

SOT23-6 P MOS

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

6 / Features

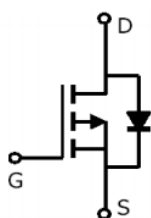
Ultra Low on-resistance. fast switching.Low on voltage,HF product.

7 / Applications

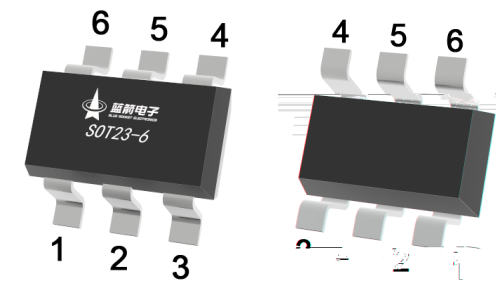
PWM

PWM application & Load switch

8 / Equivalent Circuit



9 / Pinning



PIN1 D PIN 2 D PIN 3 G PIN 4 S PIN 5 D PIN 6 D

10 / Marking

Marking	5P06 ****
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绝对最大额定值(Absolute Maximum Ratings)(Ta=25;)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Body Leakage Voltage	V_{GSS}	± 20	V
Drain Current - Continuous	I_D	-5	A
Power Dissipation (Surface Mounted on FR4 Board, $t \leq 10$ sec.)	P_D	1.5	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	
Maximum Junction-to-Ambient	$t \leq 10s$	118.6	/W
Maximum Junction-to-Ambient	Steady-State		
Maximum Junction-to-Lead	Steady-State	83.3	/W

电 气 特 性(Electrical Characteristics)(Ta=25;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-60	-63		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1	-1.5	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-2A$		84	100	m Ω
		$V_{GS}=-4.5V$ $I_D=-1A$		103	125	m Ω
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V$ $V_{GS}=0V$			-1.0	μA
Gate-Body Leakage.	I_{GSS}	$V_{GS}=-20V$			-100	nA
		$V_{GS}=20V$			100	nA
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=-1A$ $T_J=25$			-1.2	V
Input Capacitance	C_{iss}	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0MHz$		885		pF
Output Capacitance	C_{oss}			90		
Reverse Transfer Capacitance	C_{rss}			64		
Total Gate Charge	$Q_g(-10V)$	$V_{DS}=-30V$ $V_{GS}=-10.0V$ $I_D=-5A$		25		nC
Total Gate Charge	$Q_g(-4.5V)$			9.6		
Gate-to-Source Charge	Q_{gs}			3		
Gate-to-Drain Charge	Q_{gd}			7		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-30V$ $V_{GS}=-10V$ $R_L=7.5\Omega$ $R_G=3\Omega$		8		ns
Turn-On Rise Time	t_r			4		
Turn-Off Delay Time	$t_{d(off)}$			32		
Turn-Off Fall Time	t_f			7		

□ / Electrical Characteristic Curve

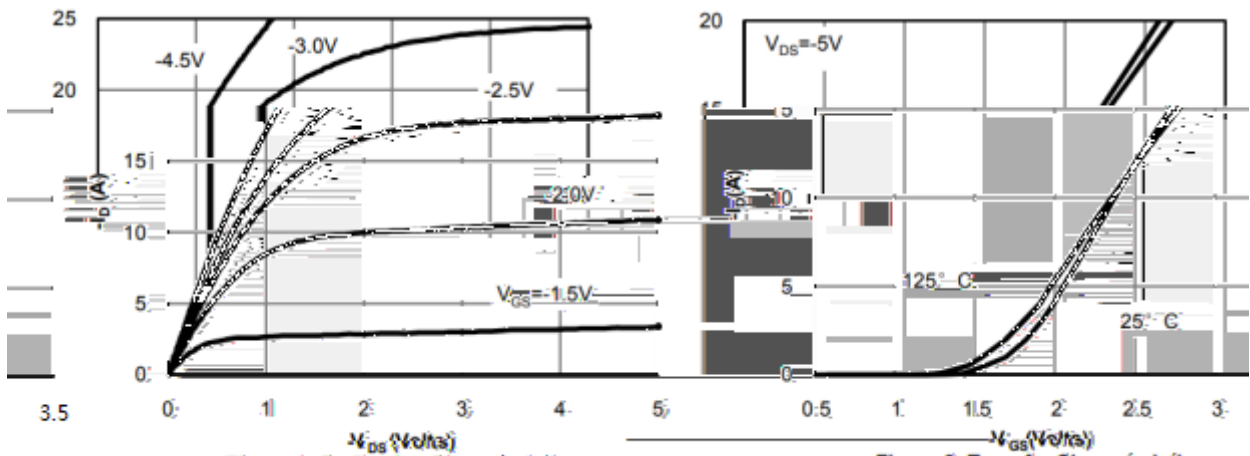


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

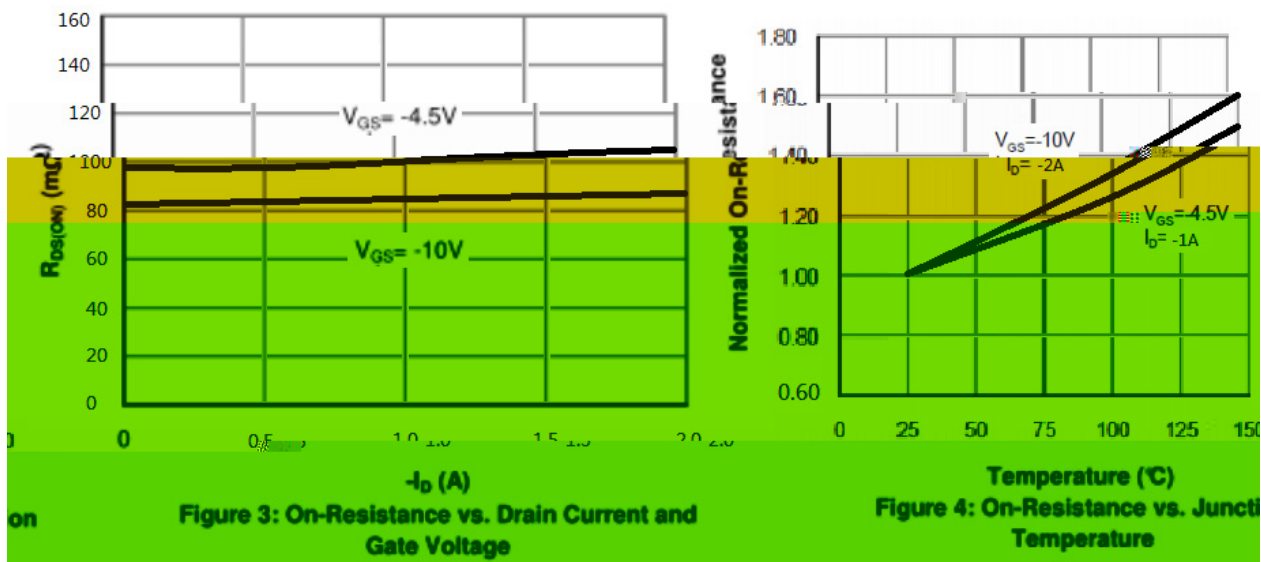


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

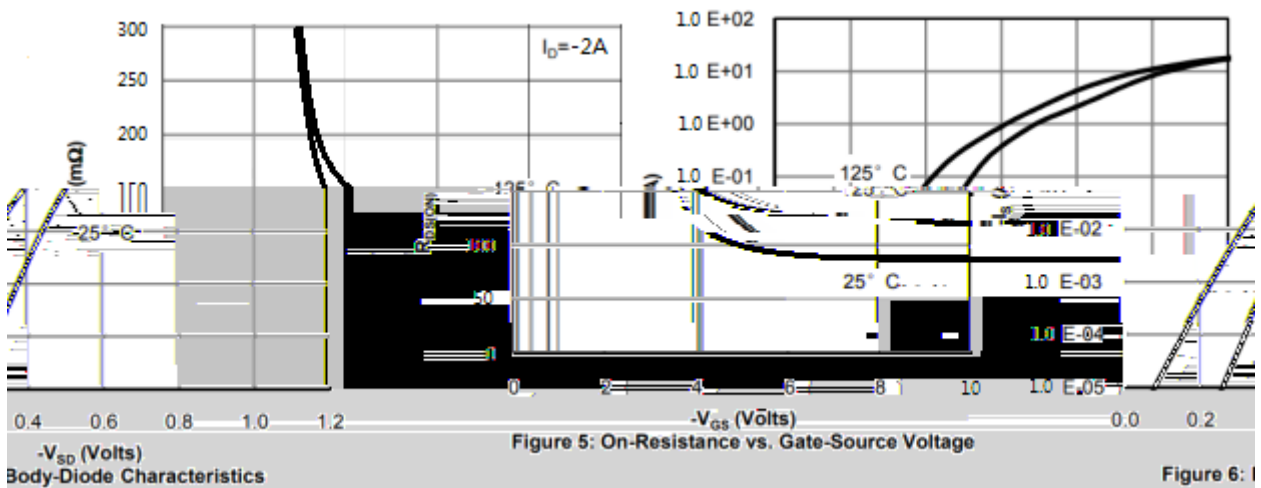


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

□□ / Electrical Characteristic Curve

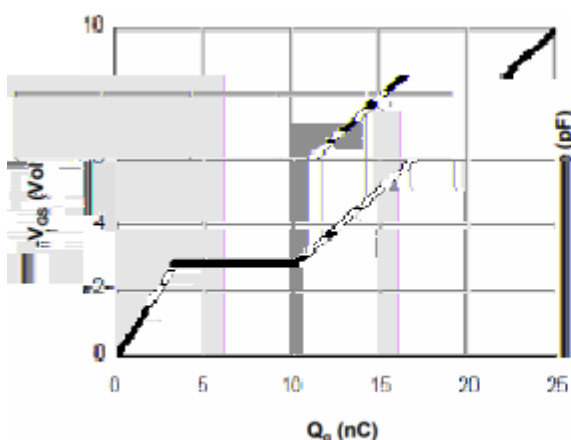


Figure 7: Gate-Charge Characteristics

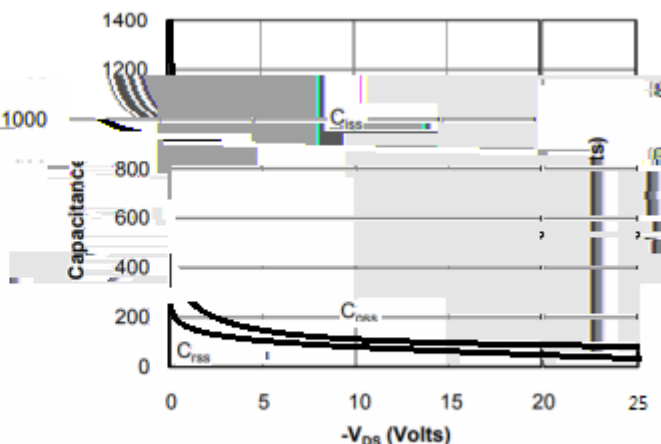


Figure 8: Capacitance Characteristics

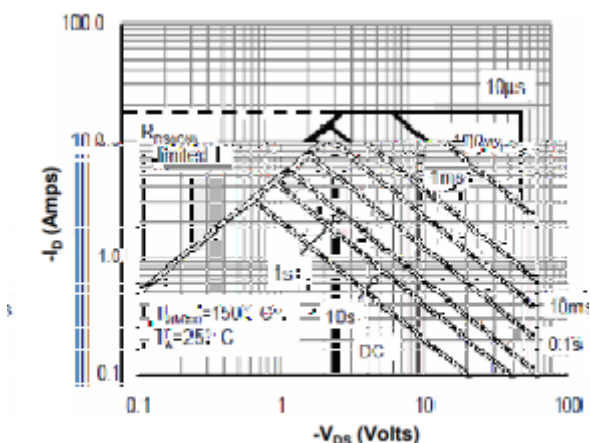


Figure 3: Maximum forward Operating A

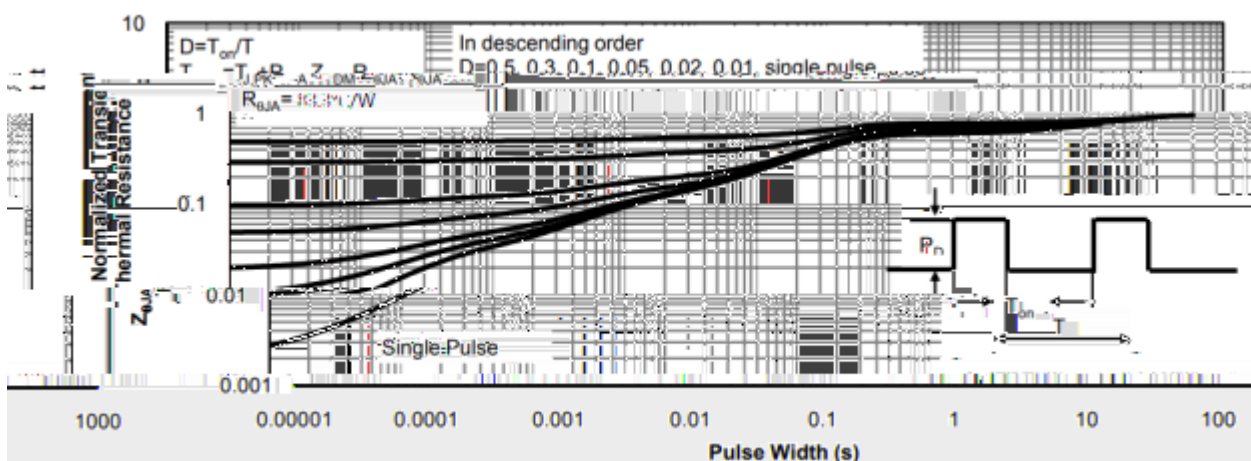
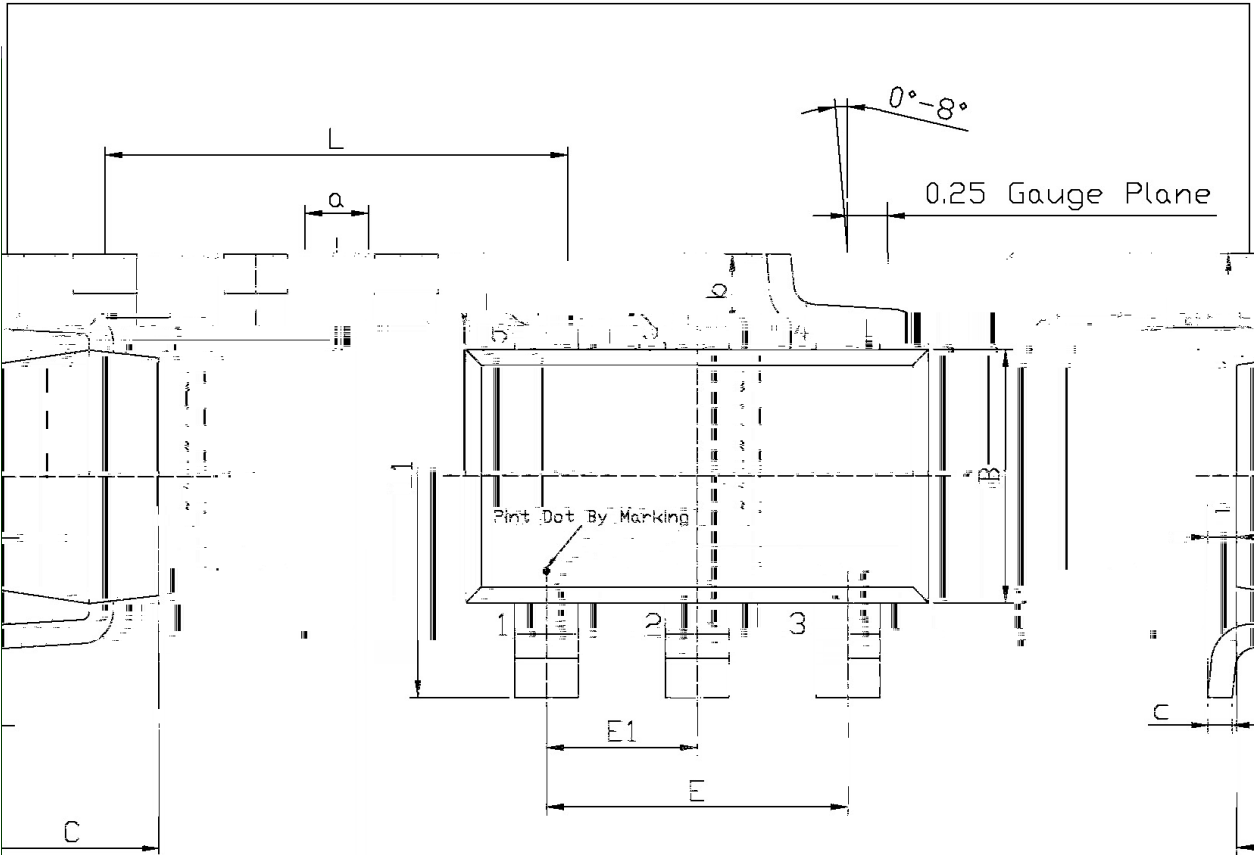


Figure 10: Normalized Maximum Transient Thermal Impedance

Package Dimensions



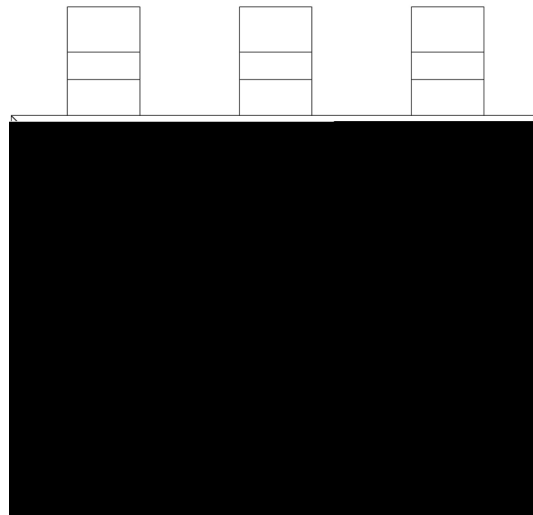
Unit: mm

Millimeters
Max
1.05
0.50
0.20
0.55
0.15

Symbol	Dimensions In Millimeters		Symbol	Dimensions In
	Min	Max		Min
L	2.82	3.32	E1	0.85
B	1.50	1.70	a	0.35
C	0.90	1.30	c	0.10
L1	2.60	3.00	b	0.35
E	1.80	2.00	F	0

SOT23-6

My□ / Marking Instructions



5P06:

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Note:

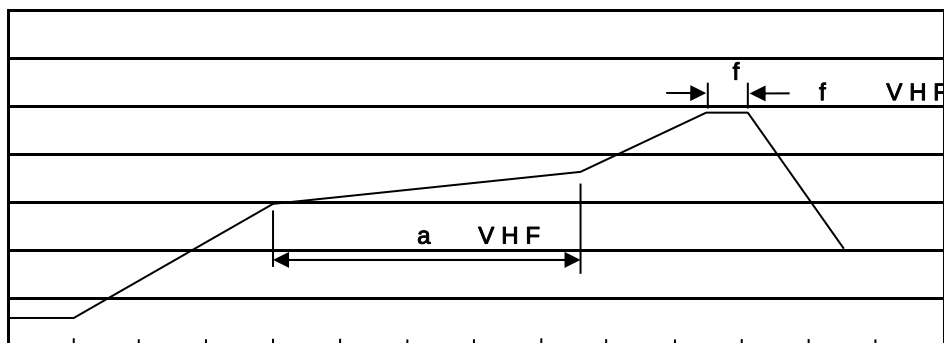
5P06 Product Type

****. Company Code



WDt□ (x/) / 8P06MF06H□

7HP SHUDWXXUH



7 L P H V H F

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. |

D/Cp□ / Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

GP□ / Packaging SPEC.

/ REEL

Package Type 7>û~E	Units ;>û !H					Dimension ;>û p . (unit /mm³)		
	Units/Reel /-	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Reel	Inner Box	Outer Boxç
SOT23-5/6	3,000	10	30,000	4	120,000	T×8	210×205×205	445×230×435

y□ / Notices