

BRCS1C0P06DSC

Rev.A Dec.-2023

/ Descriptions

SOP-8 P MOS

Double P-CHANNEL MOSFET in a SOP-8 Plastic Package.

/ Features

$V_{DS}=-60V$; $I_D=-3.5A$

$R_{DS(on)1}@-10V \leq 100m\Omega$ (Type.83m Ω)

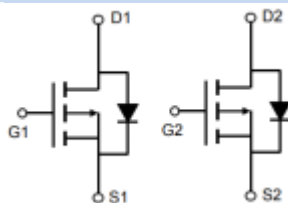
$R_{DS(on)2}@-4.5V \leq 130m\Omega$ (Type.100m Ω)

HF Product.

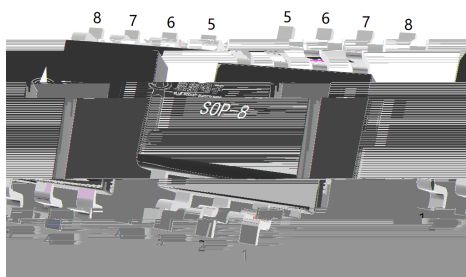
/ Applications

Power Management in Computer, Portable Equipment and Battery Powered Systems, Load Switches, Motor Control.

/ Equivalent Circuit



/ Pinning



PIN1	S1	PIN 2	G1	PIN 3	S2	PIN 4	G2
PIN 5	D2	PIN 6	D2	PIN 7	D1	PIN 8	D1

/ Marking

See Marking Instructions.

/ 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	-3.5	A
Pulsed Drain Current		I_{DM}	-16	A
Power Dissipation		P_D	2	W
Operating and Storage Temperature Range		T_J, T_{STG}	-55~150	
Maximum Junction-to-Ambient	Steady-State	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$

/ 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	-65		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1	-1.6	-2.5	V
Static Drain–Source On–Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-2A$		83	100	m Ω
		$V_{GS}=-4.5V$ $I_D=-1A$		100	130	m Ω
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V$ $V_{GS}=0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 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	$f=1MHz$		6.5		Ω
Input Capacitance	C_{iss}	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0MHz$		890		pF
Output Capacitance	C_{oss}			90		
Reverse Transfer Capacitance	C_{rss}			64		
Total Gate Charge	$Q_{g(-10V)}$	$V_{DS}=-10V$ $V_{GS}=-10.0V$ $I_D=-3A$		12.3		nC
Total Gate Charge	$Q_{g(-4.5V)}$			6.3		
Gate-to-Source Charge	Q_{gs}			1.6		
Gate-to-Drain Charge	Q_{gd}			2.4		
Turn–On Delay Time	$t_{d(on)}$	$V_{DS}=-10V$ $R_L=5.4\Omega$ $V_{GS}=-10V$ $R_{GEN}=3\Omega$		12		ns
Turn–On Rise Time	t_r			20		
Turn–Off Delay Time	$t_{d(off)}$			20		
Turn–Off Fall Time	t_f			25		

I Electrical Characteristic Curve

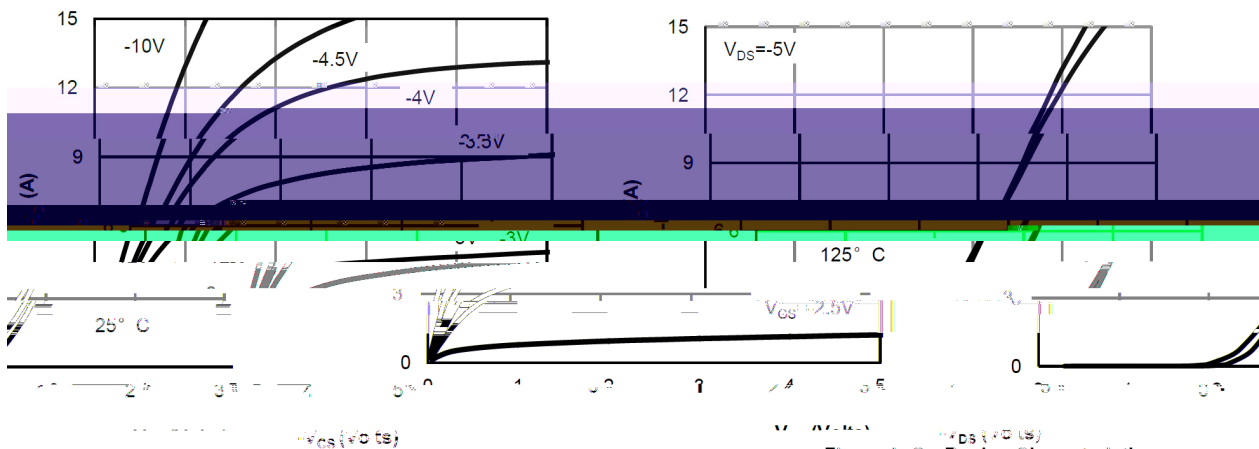


Figure 2: Transfer Characteristics

Figure 1: On-Region Characteristics

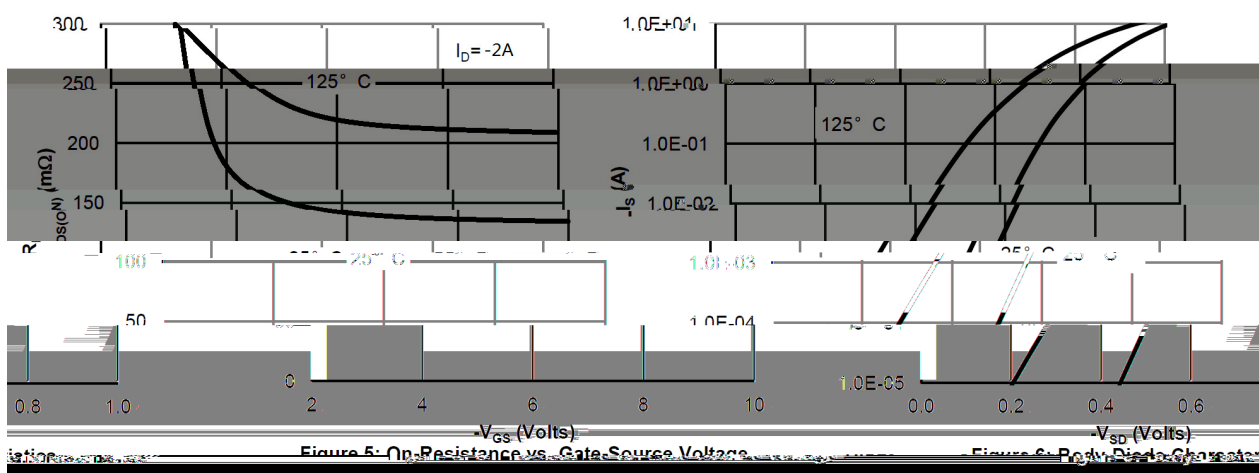
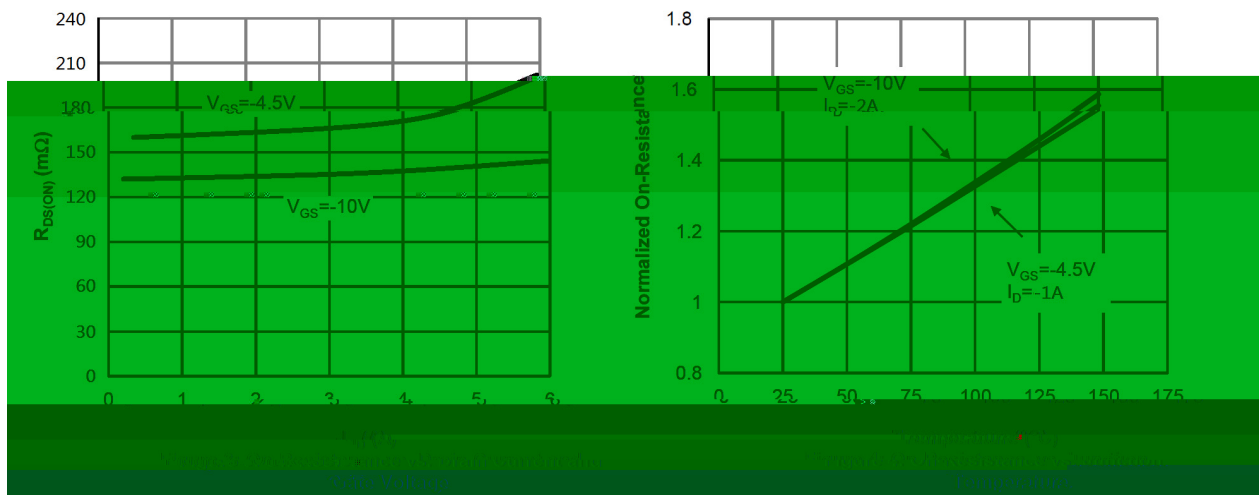


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body Diode Characteristic

/ Electrical Characteristic Curve

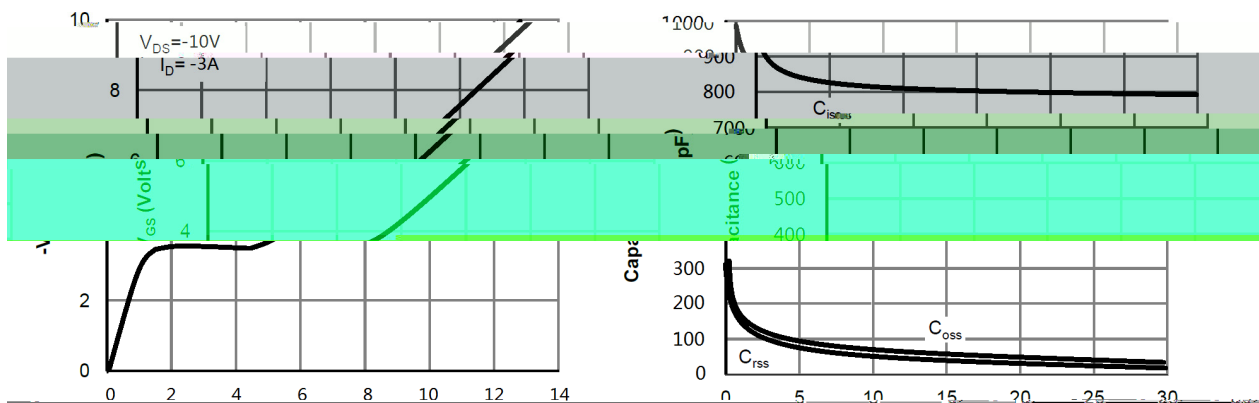
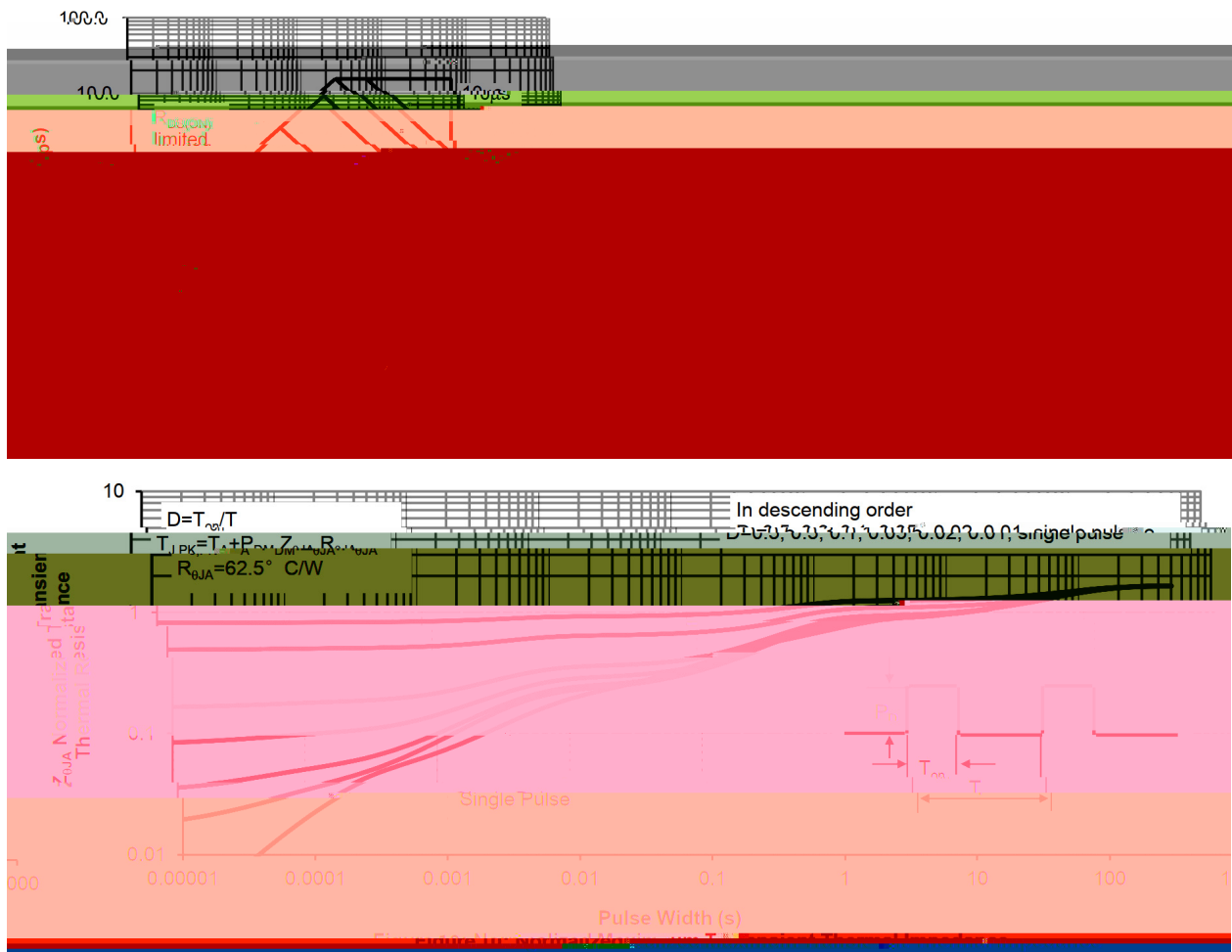
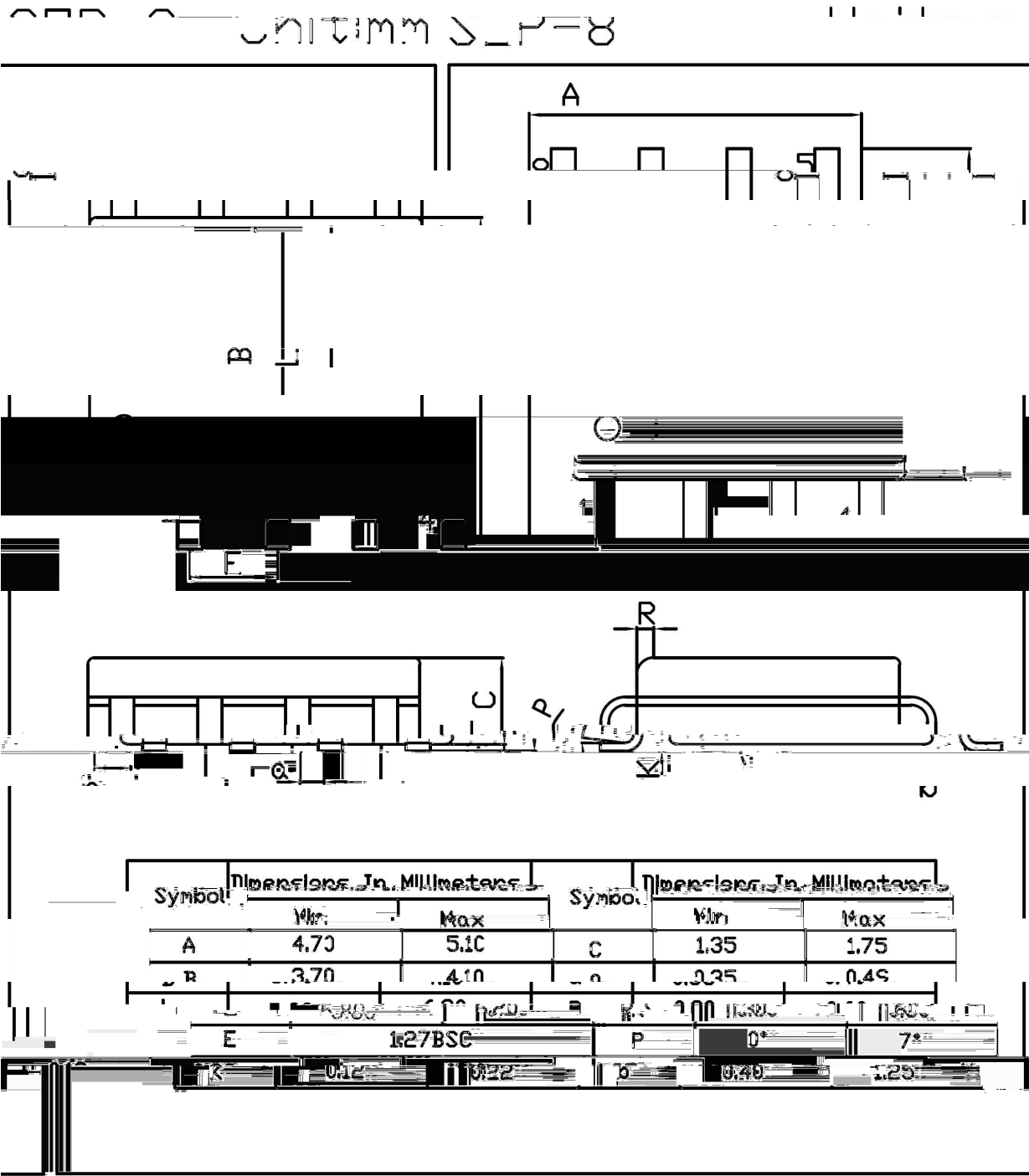


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

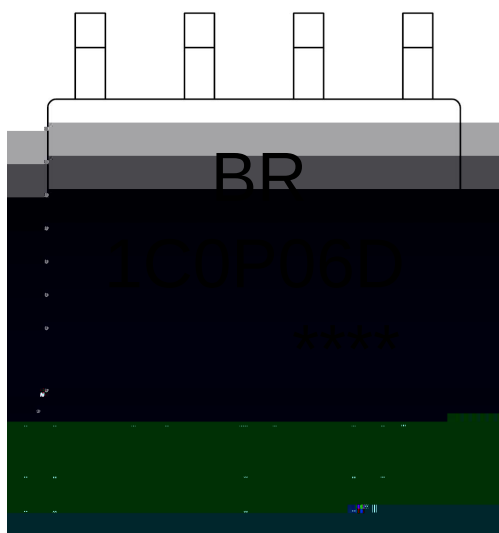


/ Package Dimensions





/ Marking Instructions



BR

1C0P06D

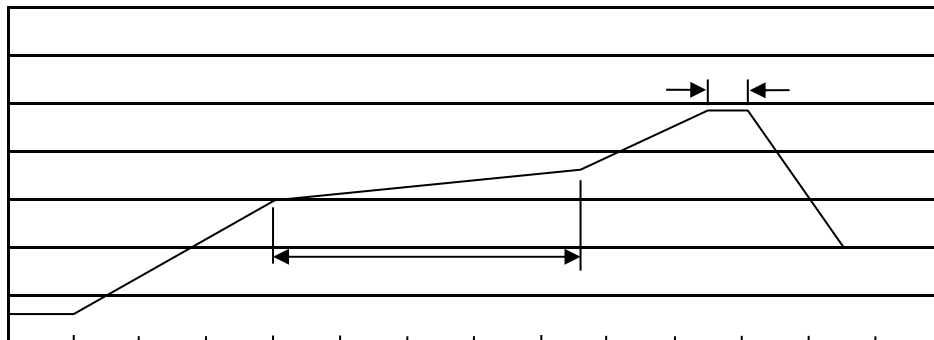
Note:

BR: Company Code

1C0P06D: Product Type Code

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

() / 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)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" ×12	360×360×50	380×335×366

/ Notices