

BRCS150P04DSC

Rev.A Aug.-2024

描述 / Descriptions

SOP-8 塑封封装双 P 沟道 MOS 场效应管。
Double P-CHANNEL MOSFET in a SOP-8 Plastic Package.

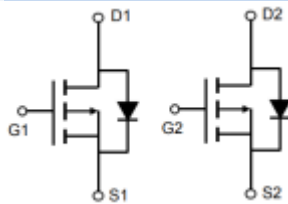
特征 / Features

$V_{DS} = -40V$; $I_D = -10A$
 $R_{DS(on)1} @ -10V \leq 15m\Omega$ (Type. $13m\Omega$)
 $R_{DS(on)2} @ -4.5V \leq 30m\Omega$ (Type. $17m\Omega$)
 无卤产品。HF Product.

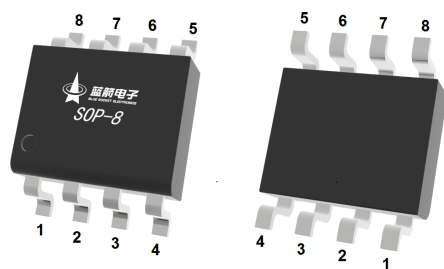
用途 / Applications

计算机、便携式设备和电池供电系统、负载开关、电机控制中的电源管理。
Power Management in Computer, Portable Equipment and Battery Powered Systems, Load Switches, Motor Control.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : S1 PIN 2 : G1 PIN 3 : S2 PIN 4 : G2
 PIN 5 : D2 PIN 6 : D2 PIN 7 : D1 PIN 8 : D1

印章代码 / Marking

见印章说明。
See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V _{DS}	-40	V
Gate-Body Leakage Voltage	V _{GS}	±20	V
Drain Current – Continuous	I _D	-10	A
Pulsed Drain Current	I _{DM}	-41	A
Power Dissipation	P _D	2.5	W
Operating and Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Maximum Junction-to-Ambient	R _{θJA}	50	°C/W

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =-250μA	-40	-46.5		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-40V V _{GS} =0V			1.0	μA
Gate-Body Leakage Current Forward	I _{GSS}	V _{GS} =±20V V _{DS} =0V			±0.1	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250μA	-1.0	-1.7	-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V I _D =-10A		13	15	mΩ
		V _{GS} =-4.5V I _D =-7A		17	30	
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =-1A			-1.2	V
Gate resistance	R _g	V _{GS} =0V V _{DS} =0V, f=1MHz		6.5		Ω
Input Capacitance	C _{iss}	V _{DS} =-25V V _{GS} =0V f=1.0MHz		2680		pF
Output Capacitance	C _{oss}			1150		
Reverse Transfer Capacitance	C _{rss}			870		
Total Gate Charge	Q _g (10V)	V _{GS} =-10V V _{DS} =-20V I _D =-10A		42		nC
Total Gate Charge	Q _g (4.5V)			18.6		
Gate Source Charge	Q _{gs}			7		
Gate Drain Charge	Q _{gd}			8.6		

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V$ $V_{DS}=-20V$ $R_L=1\Omega$ $R_{GEN}=3\Omega$		9.4		ns
Turn-On Rise Time	t_r			20		
Turn-Off Delay Time	$t_{d(off)}$			55		
Turn-Off Fall Time	t_f			30		

电参数曲线图 / Electrical Characteristic Curve

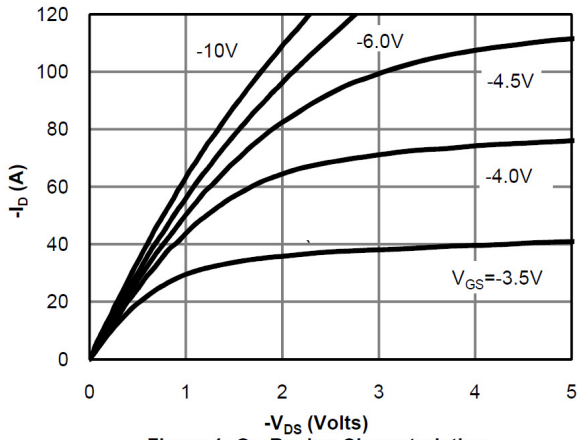


Figure 1: On-Region Characteristics

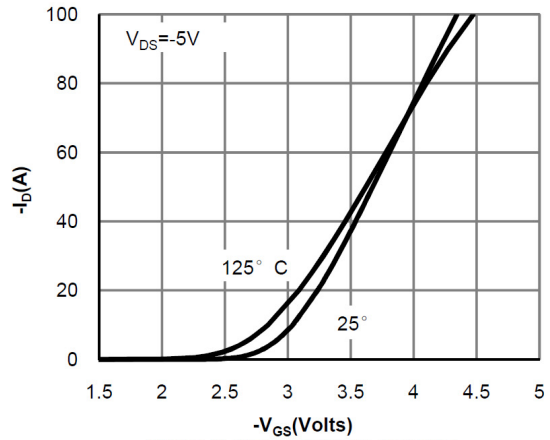


Figure 2: Transfer Characteristics

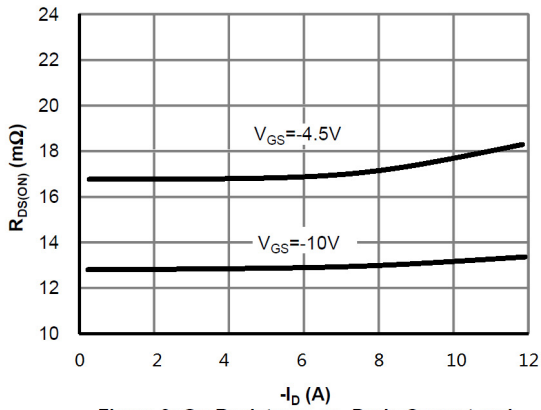


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

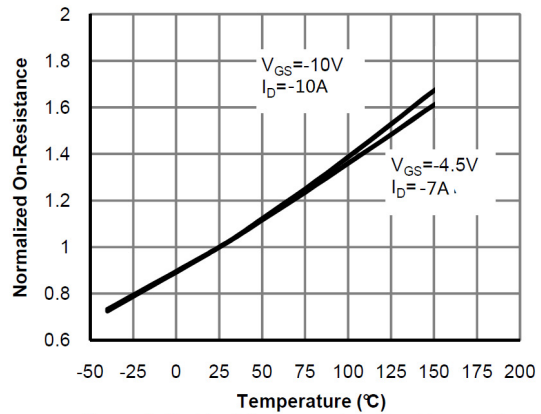


Figure 4: On-Resistance vs. Junction Temperature

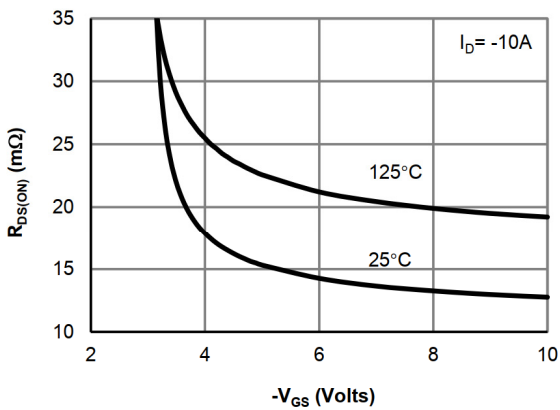


Figure 5: On-Resistance vs. Gate-Source Voltage

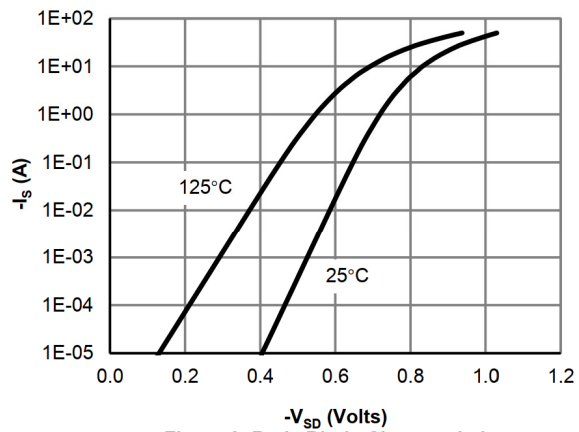


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

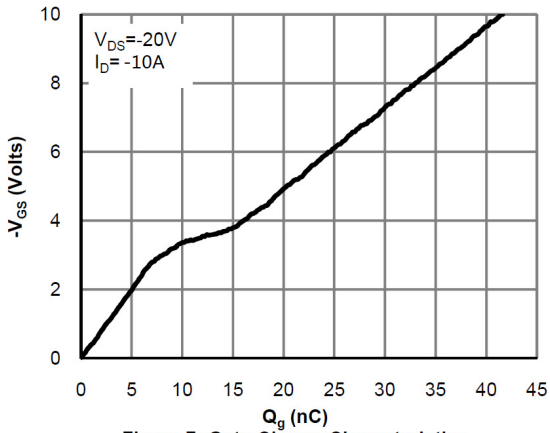


Figure 7: Gate-Charge Characteristics

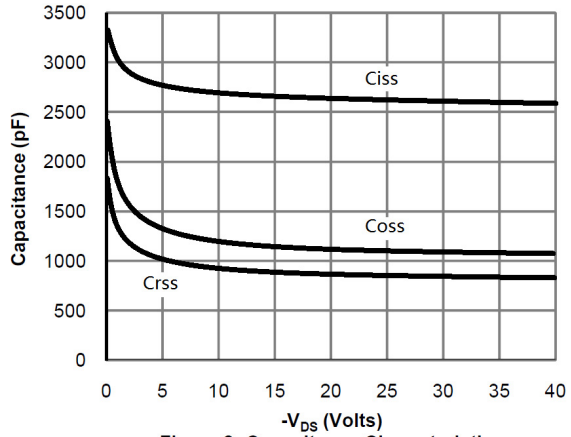


Figure 8: Capacitance Characteristics

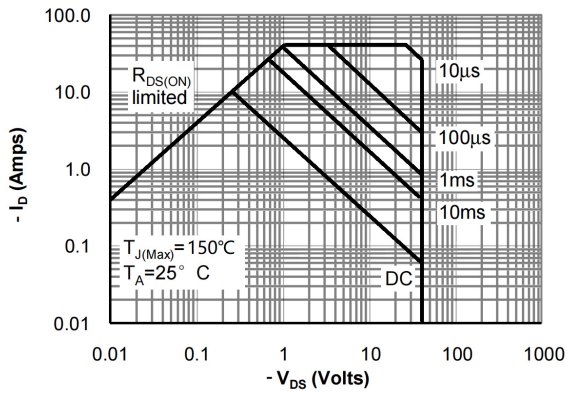


Figure 9: Maximum Forward Biased Safe Operating Area

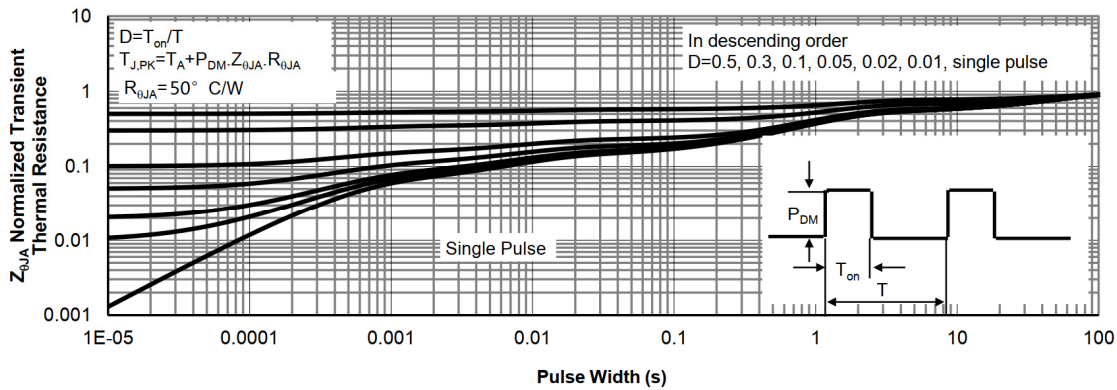
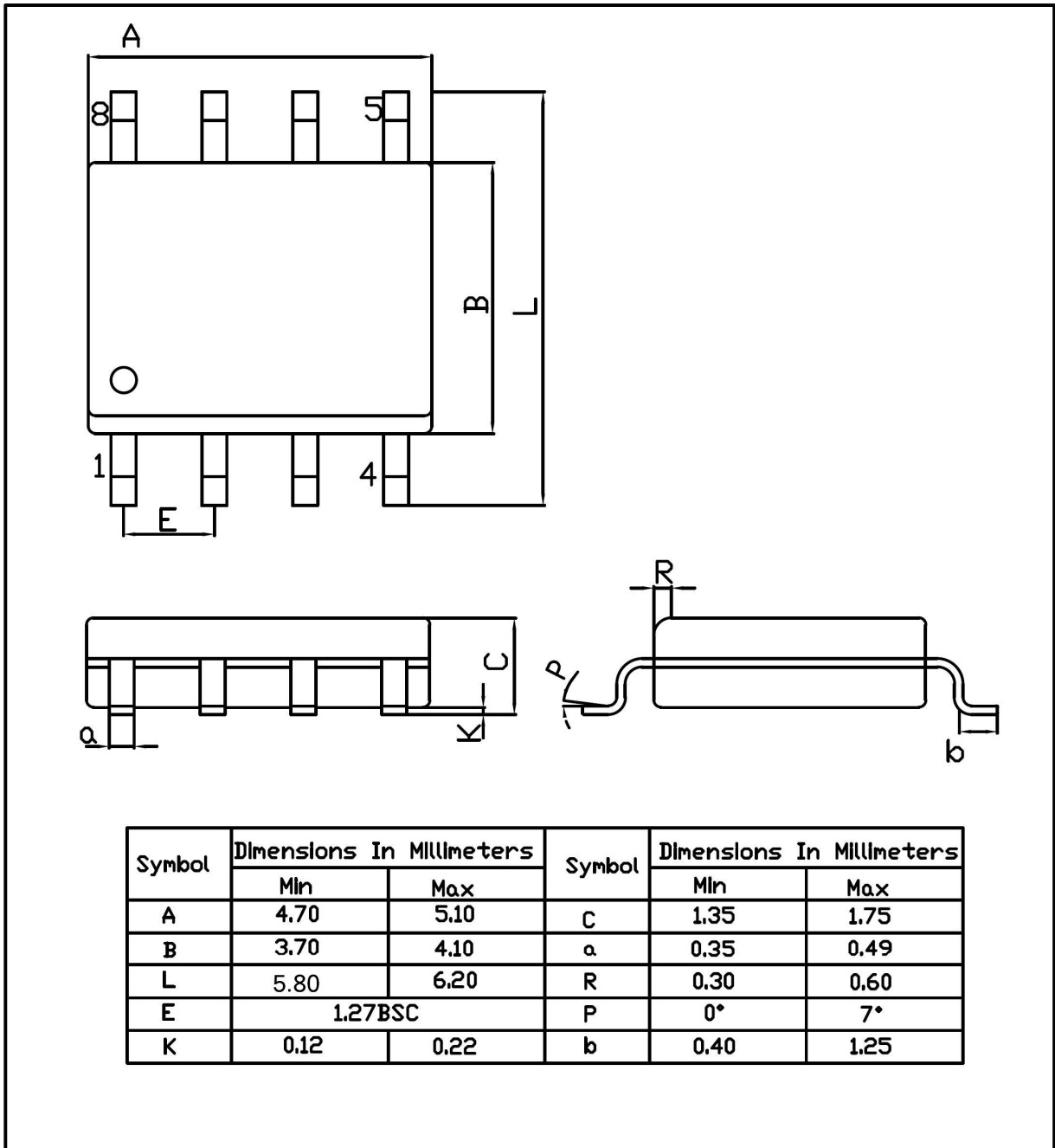


Figure 10: Normalized Maximum Transient Thermal Impedance

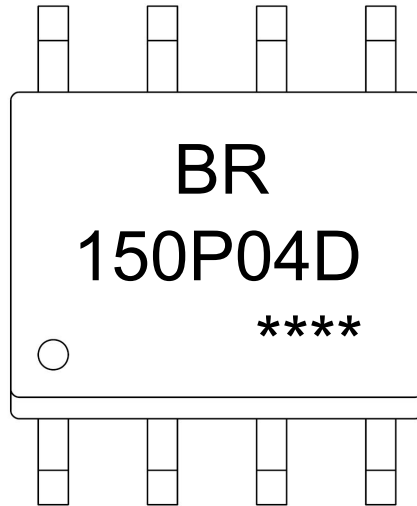
外形尺寸图 / Package Dimensions

SOP-8

Unit:mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

150P04D： 为型号代码

****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

150P04D: Product Type Code

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)


说明：

- 1、预热温度 150~180°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

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

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOP/ESOP-8	4,000	2	8,000	6	48,000	13" ×12	360×360×50	380×335×366

使用说明 / Notices