

BRCS150P04DSC

Rev.A Aug.-2024

/ Descriptions

SOP-8 P MOS

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

/ Features

$V_{DS}=-40V$; $I_D=-10A$

$R_{DS(on)1}@-10V$ 15m (Type.13m)

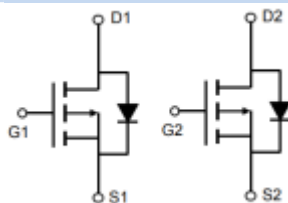
$R_{DS(on)2}@-4.5V$ 30m (Type.17m)

HF Product.

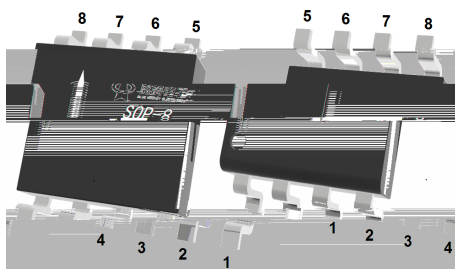
/ Applications

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}	-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	
Maximum Junction-to-Ambient	R_{JA}	50	/W

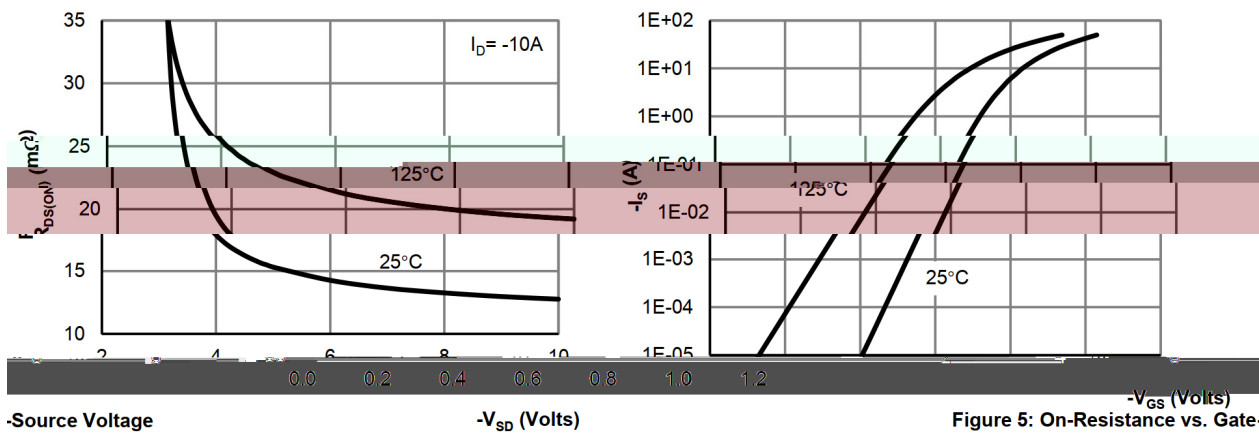
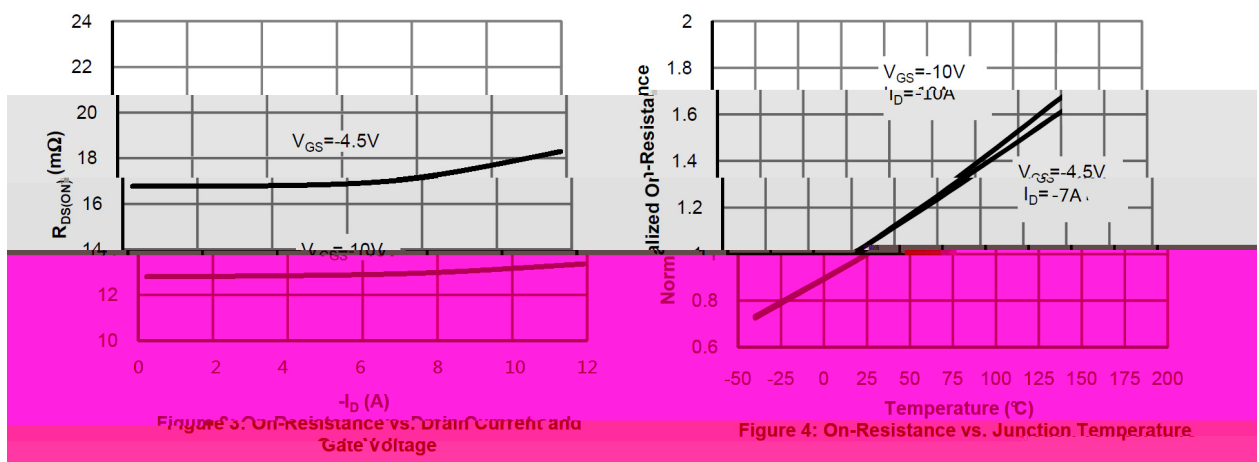
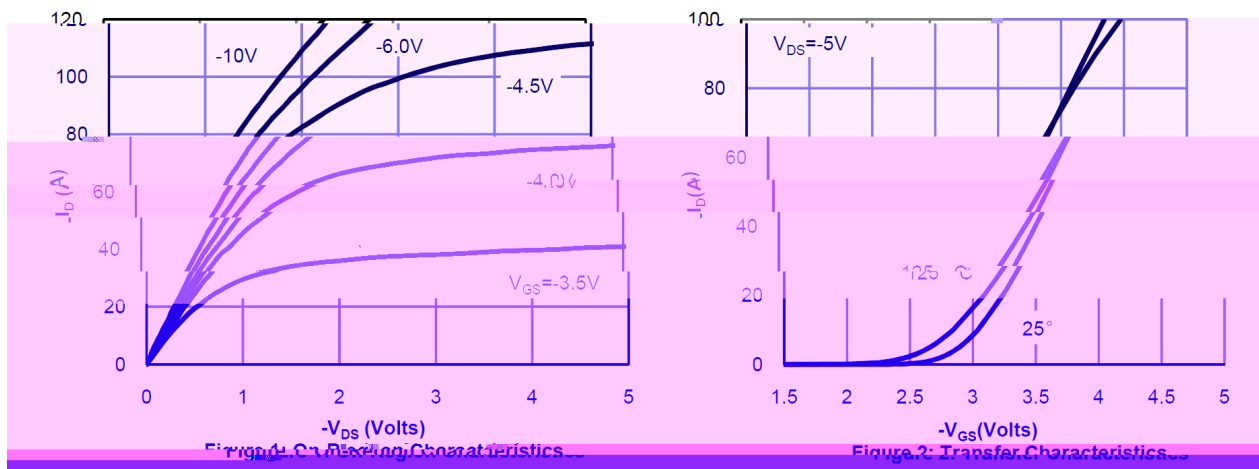
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=-250\mu A$	-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}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1.0	-1.7	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-10A$		13	15	m Ω
		$V_{GS}=-4.5V$ $I_D=-7A$		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		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =-10V V _{DS} =-20V R _L =1 R _{GEN} =3Ω		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		

/ Electrical Characteristic Curve

Figure 5: On-Resistance vs. Gate Voltage
Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve

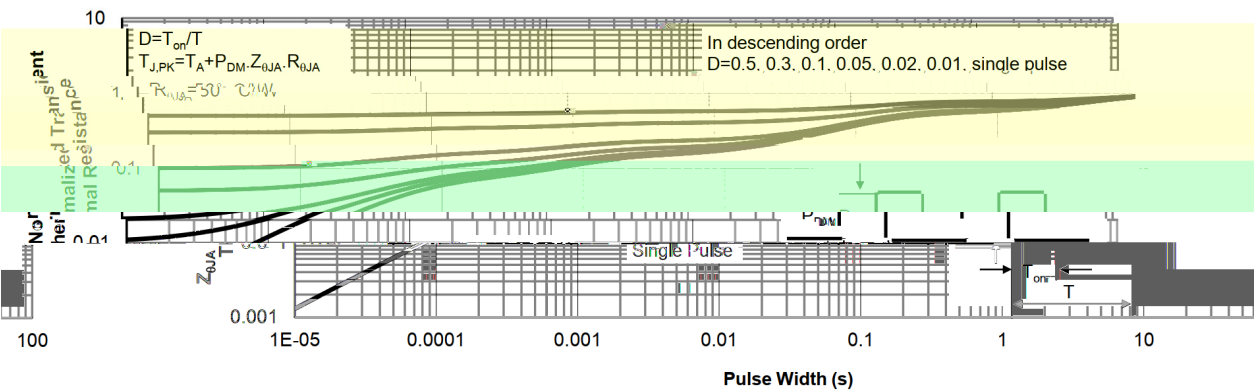
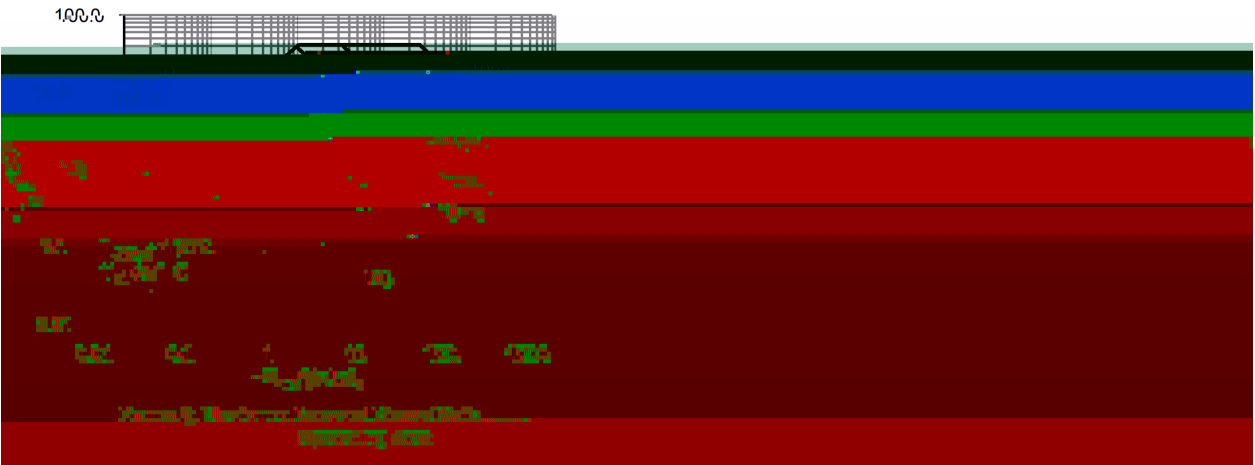
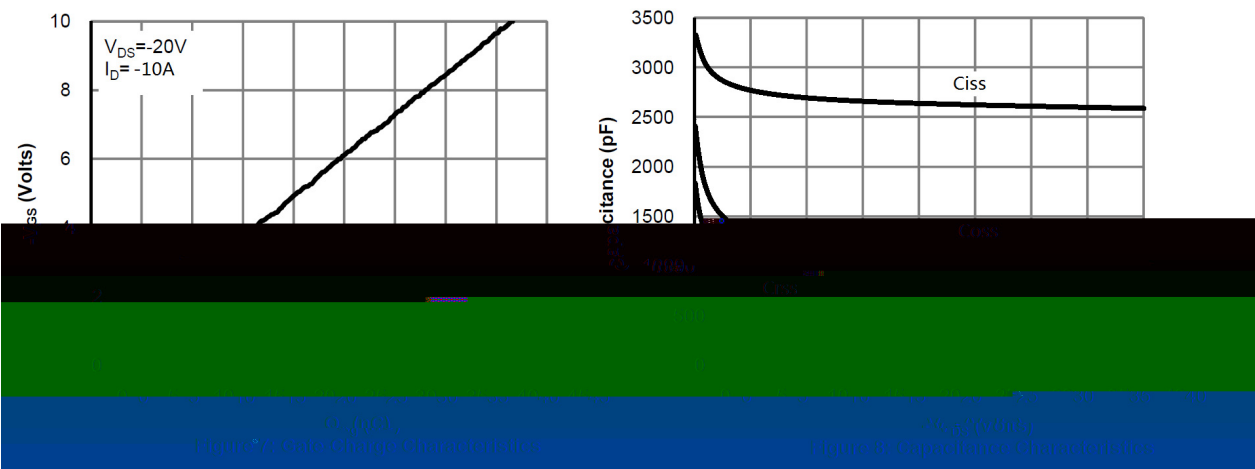
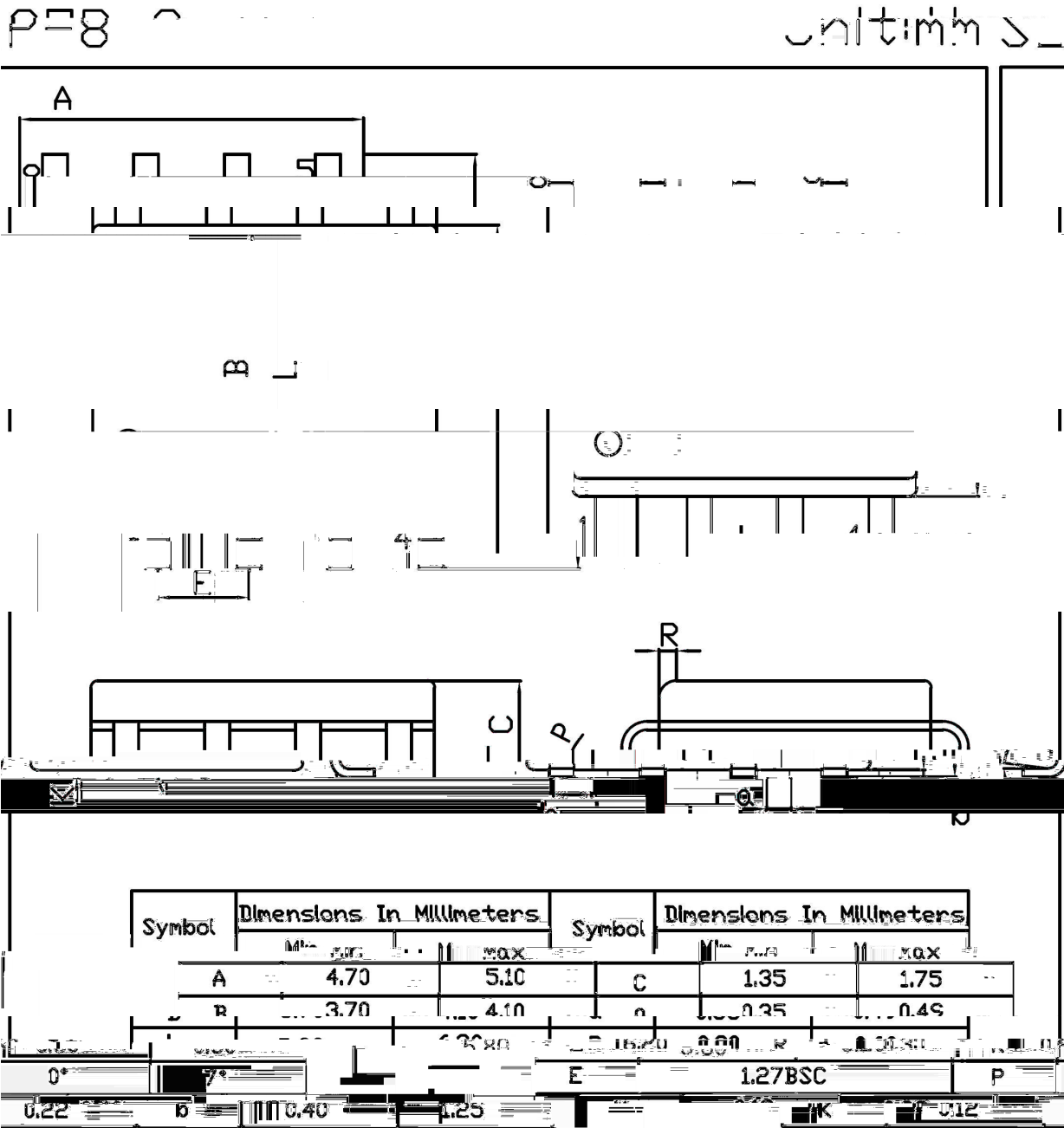
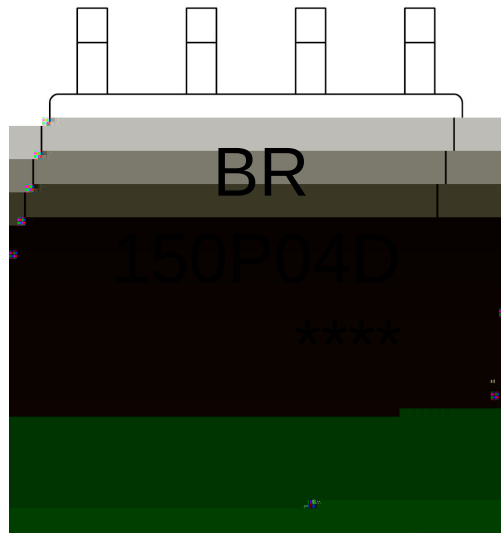


Figure10: Normalized Maximum Transient Thermal Impedance

Package Dimensions



/ Marking Instructions



BR

150P04D

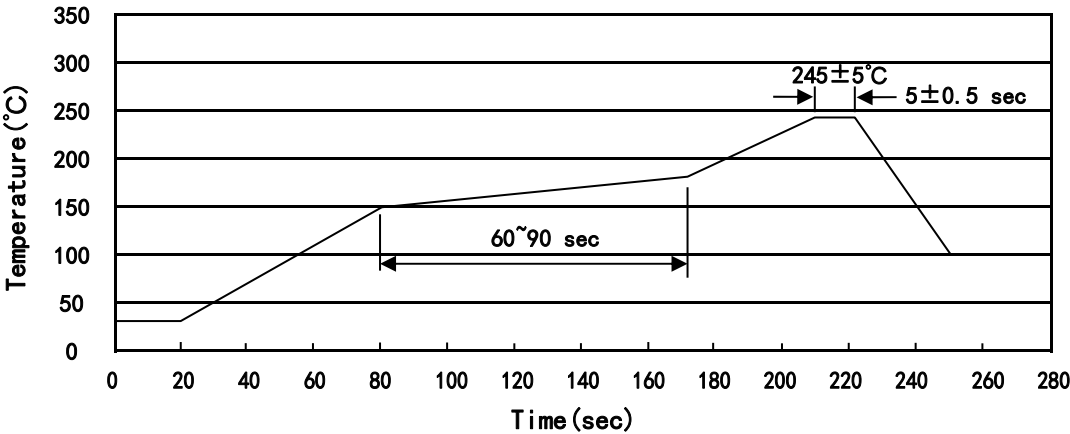
Note:

BR: Company Code

150P04D: Product Type Code

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

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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
SOP/ESOP-8	4,000	2	8,000	6	48,000	13 ×12	360×360×50	380×335×366

/ Notices