

BRCS850N10SDPQ

Rev.A Aug.-2022



DATA SHEET

	! " #	\$! % & '	! () % * +	, -	. /
			0 1 2 3 - 4	5 6 7	8 9 :
			; < = > ?) @ A B = C D E F G H I J K L M N O P Q R S T U V C D @ A % W X R S Y Z B = [\ L] ^ _ ` a b                      Z c d e f g h i g j _ ` a b Z c d e f g k	l m	5 6 7

/ Descriptions

TO-252 no op q r MOS s t @ u k
N-CHANNEL MOSFET in a TO-252 Plastic Package.

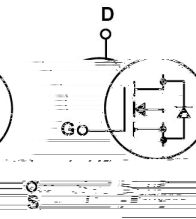
/ Features

v w x Z y z { b | Z J K L M N O P Q R S Z } ~ E F k
Low On-Resistance, fast switching, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

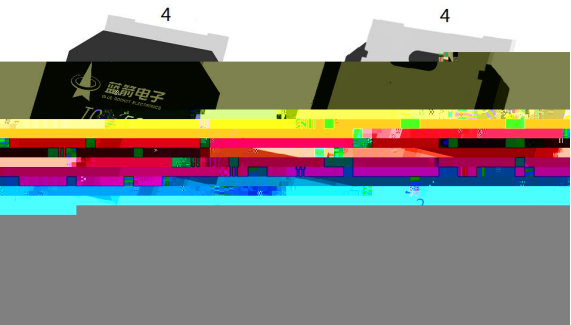
/ Applications

i ¢ £ % ¢ ¥ u | k § ¨ © ¢ i ¢ « ¬ - ® Z U V C D @ A % W X R S k
Power Management in DC/DC Converter.For LED Backlight DC-DC Boost Converter Solution, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 j G PIN 2 j D PIN 3 j S PIN 4 j D

/ Marking

— [\ ° ± k
See Marking Instructions.

BRCS850N10SDPQ

Rev.A Aug.-2022



DATA SHEET

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Drain Current		$I_D(T_C=25^{\circ}\text{C})$	12	A
Drain Current - Pulsed		I_{DM}	28	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy		E_{AS}	35	mJ
Avalanche Current		I_{AS}	2.1	A
Power Dissipation		$P_D(T_C=25^{\circ}\text{C})$	21.5	W
Operating and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Junction-to-Ambient	$t \leq 10$	$R_{\theta JA}$	20	$^{\circ}\text{C/W}$
Junction-to-Ambient	Steady-State		50	
Junction-to-Case	Steady-State	$R_{\theta JC}$	5.8	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$	$I_D=250\mu\text{A}$	100	106		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$	$V_{GS}=0\text{V}$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20\text{V}$	$V_{DS}=0\text{V}$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=250\mu\text{A}$	1.0	1.8	3.0	V

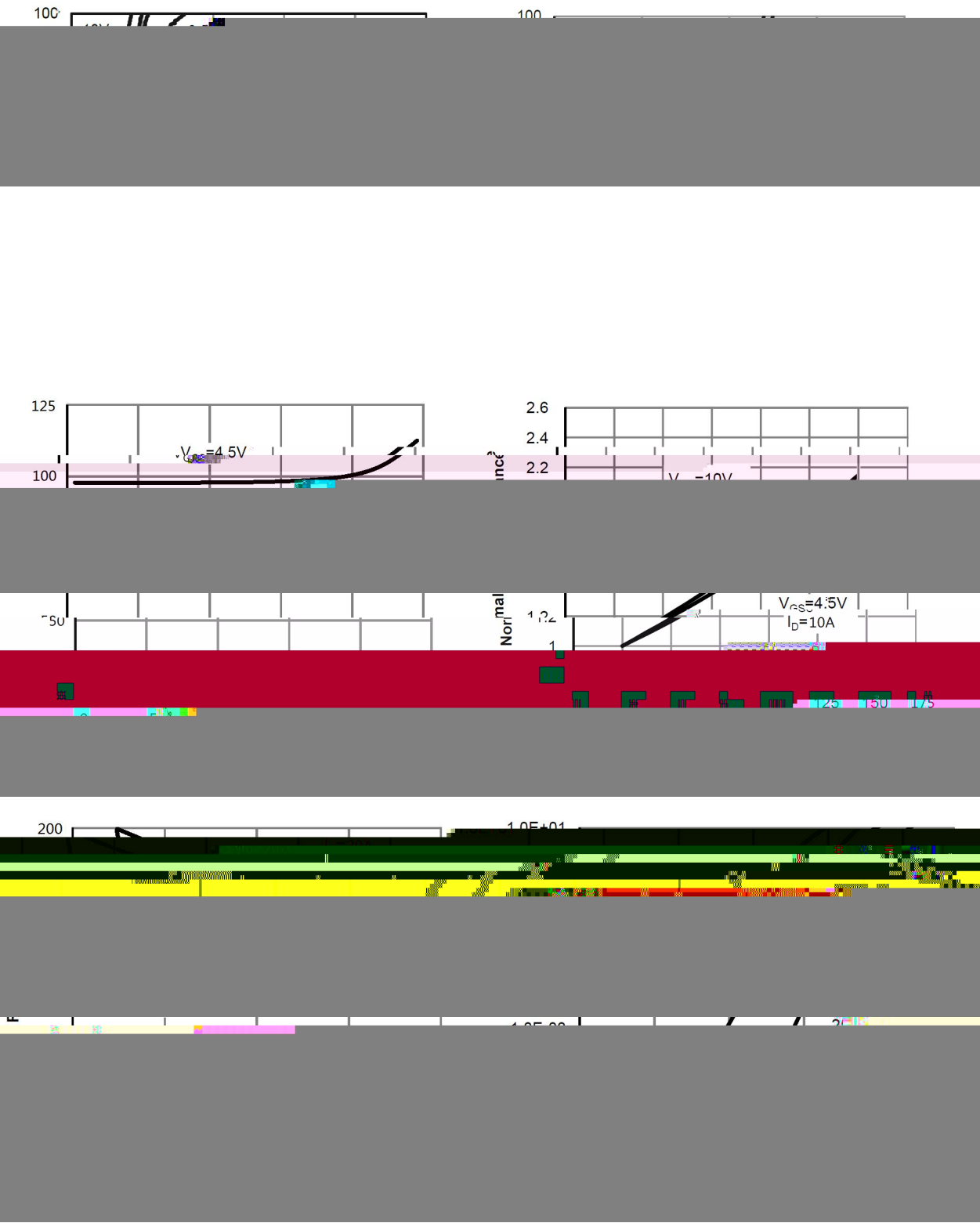
Rev.A Aug.-2022



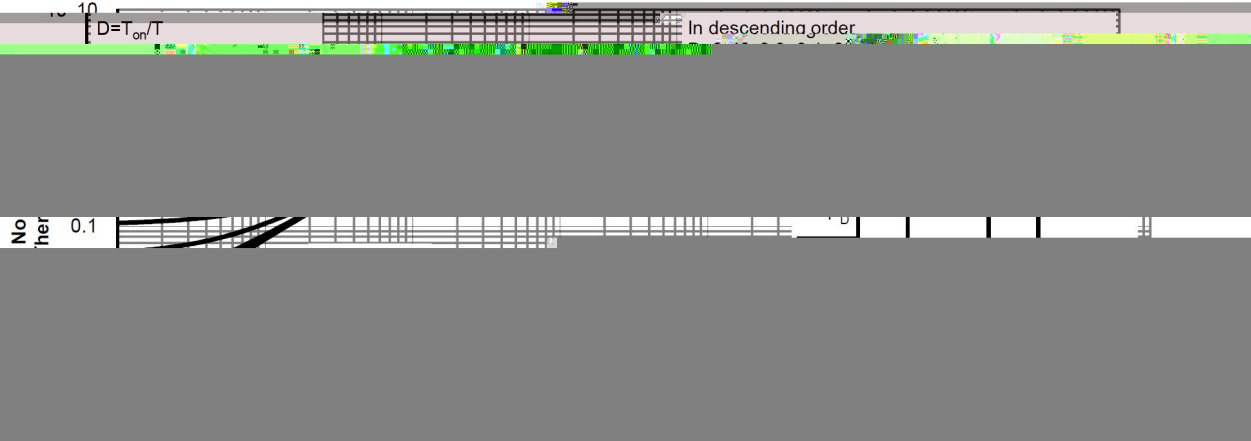
DATA SHEET

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	$Q_{g($	$g($				

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

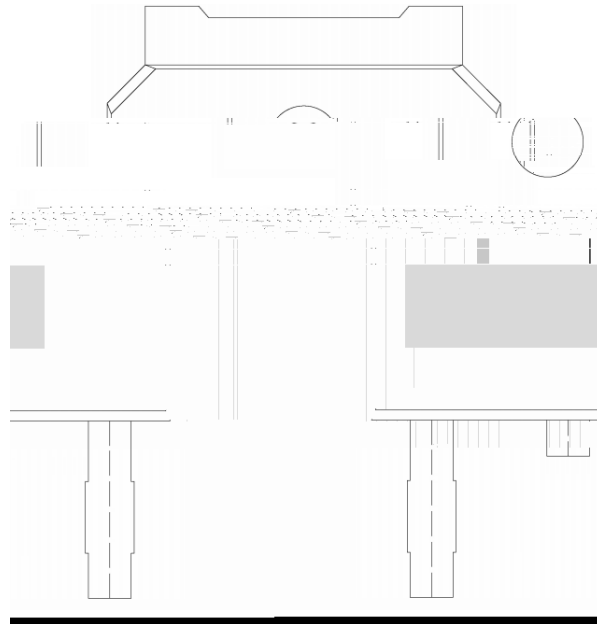


BRCS850N10SDPQ

Rev.A Aug.-2022

DATA SHEET

/ Marking Instructions



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

Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±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 封装形式	Units 包装数量					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
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366