

# BRCS900N10SYM

Rev.C Feb.-2023

## / Descriptions

PDFN5×6A N

Dual N-CHANNEL MOSFET in a PDFN5×6A Plastic Package.

## / Features

Dual N-Ch

VDS(V)=100V

ID=13.7A

RDS(ON)<90m (VGS=10V)

RDS(ON)<130m (VGS=4.5V)

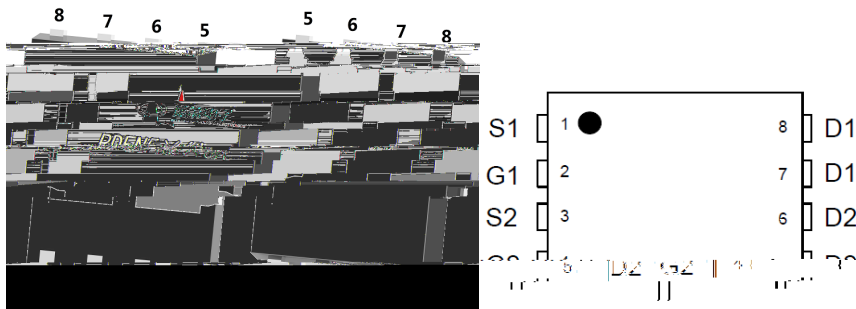
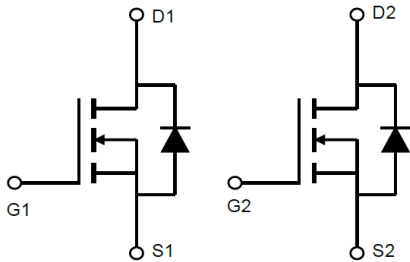
HF Product.

## / Applications

PWM

LED

PWM Application, Load Switch, Power Management, Dimming LED.



## / Marking

See Marking Instructions.

/ Absolute Maximum Ratings( $T_a=25$  )

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	100	V	
Continuous Drain Current	$I_D$	13.7	A	
Pulsed Drain Current	$I_{DM}$	48	A	
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V	
Power Dissipation	$P_D(T_c=25)$	35.7	W	
Avalanche energy(L=0.5mH)	$E_{AS}$	2.7	mJ	
Avalanche Current(L=0.5mH)	$I_{AS}$	3.3	A	
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150		
Maximum Junction-to-Ambient	t 10s	$R_{JA}$	32	/ W
	Steady-State		62.5	
Maximum Junction-to-Case	Steady-State	$R_{JC}$	3.5	

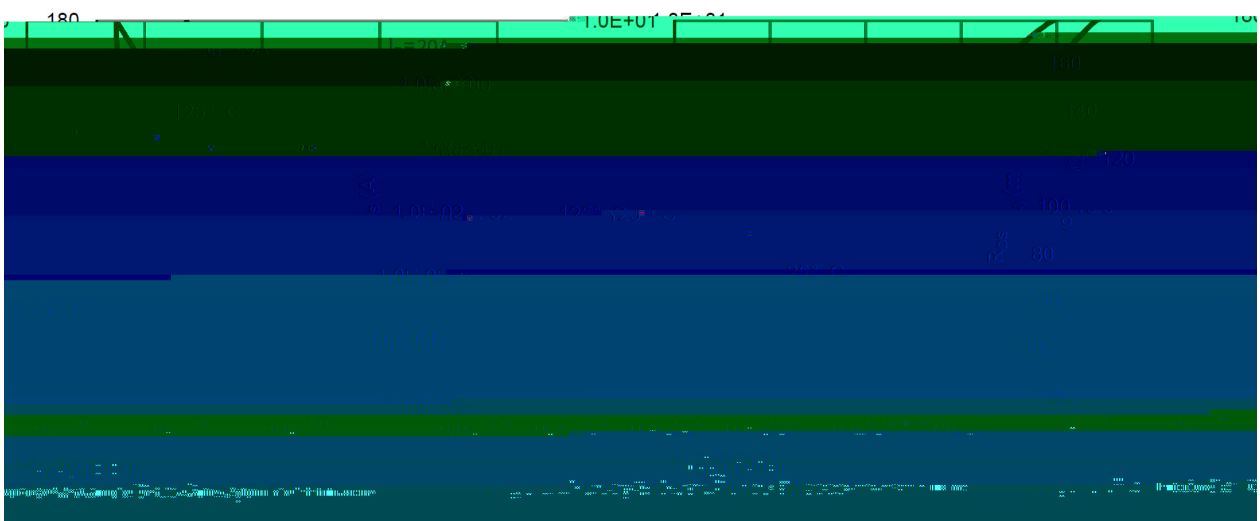
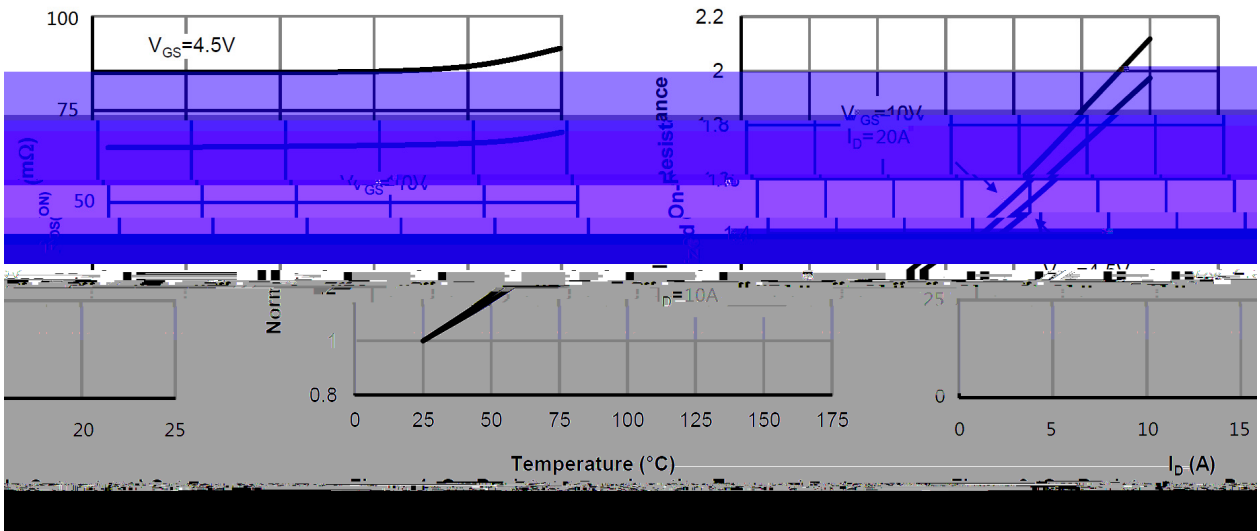
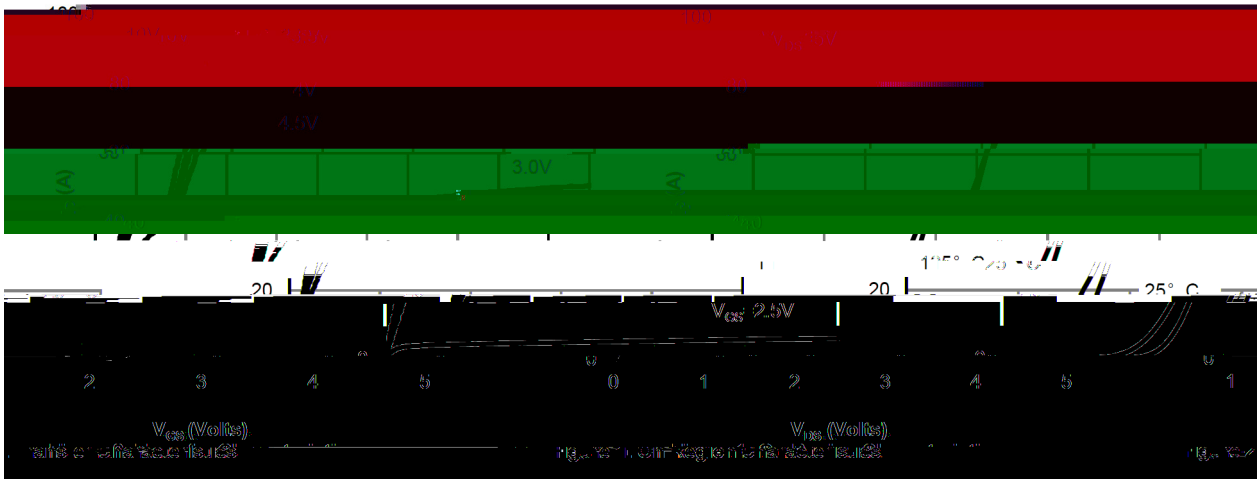
/ Electrical Characteristics( $T_a=25$  )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu A, V_{GS}=0V$	100			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=100, V_{GS}=0V$			1.0	$\mu A$
Gate-Body leakage current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.4	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=20A$		68	90	m
		$V_{GS}=4.5V, I_D=10A$		84	130	
Diode Forward Voltage	$V_{SD}$	$I_S=1A, V_{GS}=0V$			1.2	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$		180		pF
Output Capacitance	$C_{oss}$			105		
Reverse Transfer Capacitance	$C_{rss}$			15		
Gate resistance	$R_g$	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		1.5		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V, V_{DS}=50V, I_D=5A$		6.5		nC
Total Gate Charge	$Q_{g(4.5V)}$			3		
Gate Source Charge	$Q_{gs}$			1.5		
Gate Drain Charge	$Q_{gd}$			1.5		

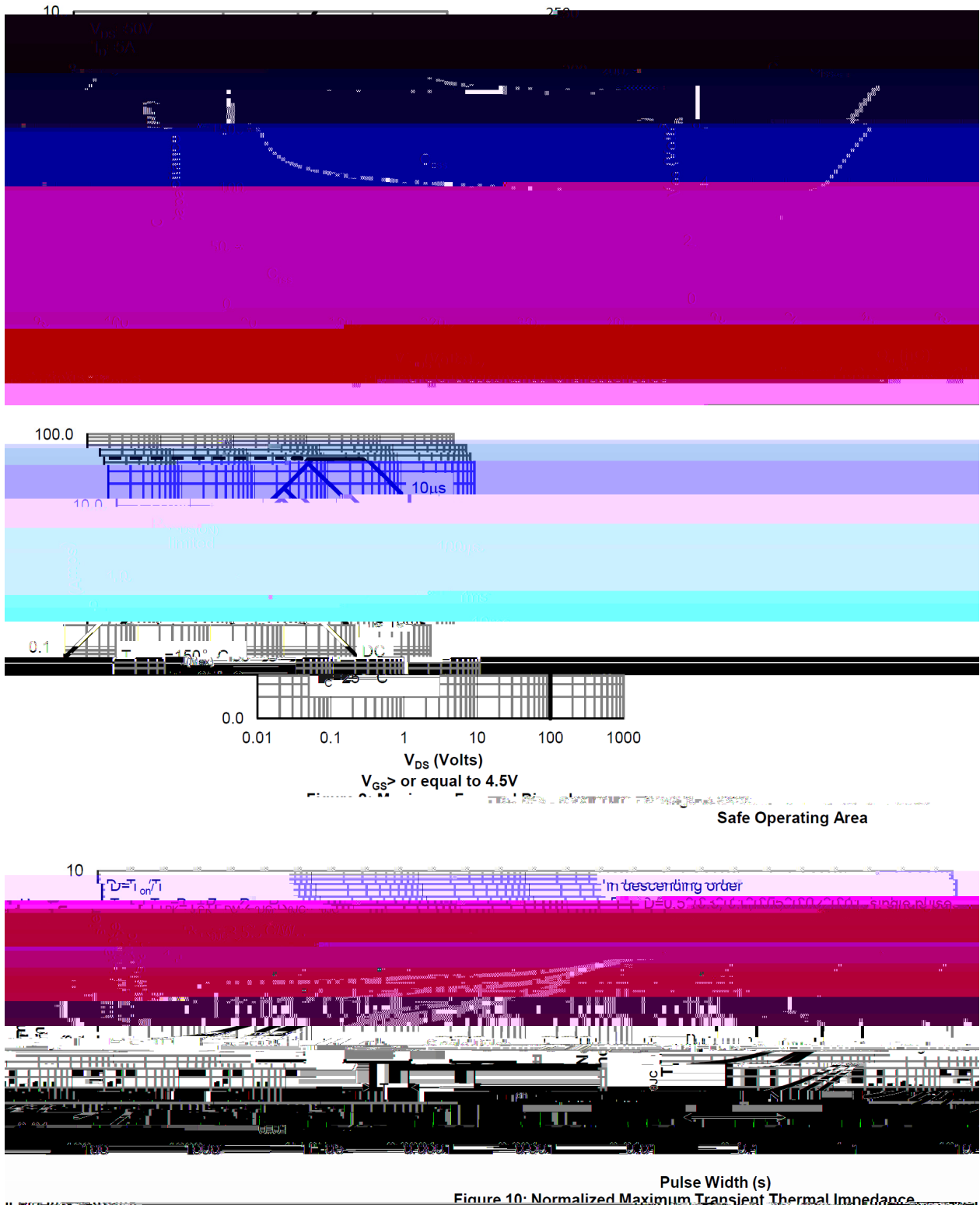
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=50V$ $R_L=10$ $R_{GEN}=3$		4		ns
Turn-On Rise Time	$t_r$			2		
Turn-Off Delay Time	$t_{d(off)}$			15		
Turn-Off Fall Time	$t_f$			2		

**/ Electrical Characteristic Curve**



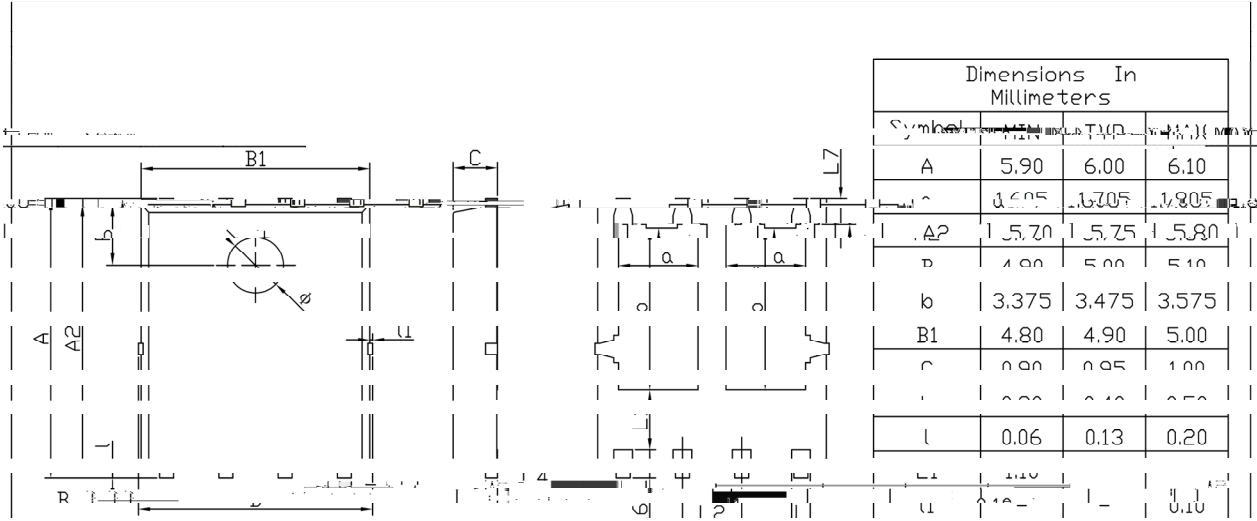
**/ Electrical Characteristic Curve**



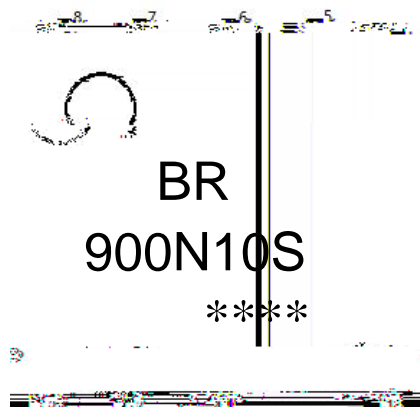
**/ Package Dimensions**

PDFN5 X6A

Unit:mm



**/ Marking Instructions**



BR

900N10S

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Note

BR            Company Code

900N10S    Product Type

\*\*\*\*:        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