

/ Descriptions

PDFN5×6A N

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

/ Features

Dual N-Ch

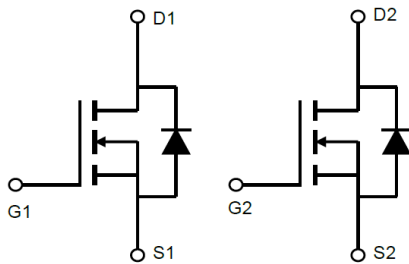
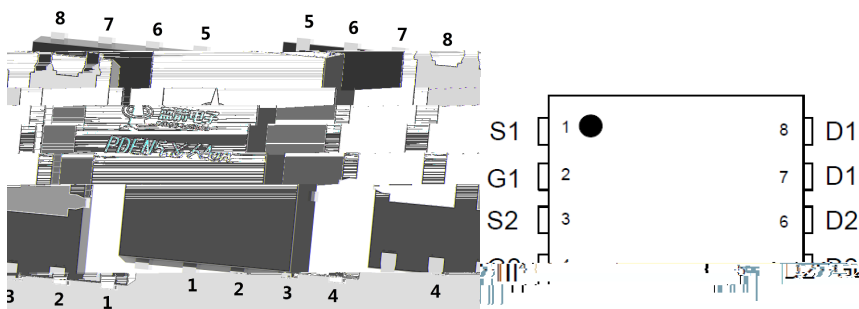
 $V_{DS}(V)=100V$ $I_D=13.7A$ $R_{DS(ON)}<90m\Omega(V_{GS}=10V)$ $R_{DS(ON)}<130m\Omega(V_{GS}=4.5V)$

HF Product.

/ Applications

PWM LED

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

/ Equivalent Circuit**/ Pinning****/ Marking**

- See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

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}	± 20	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	35.7	W
Avalanche energy($L=0.5\text{mH}$)		E_{AS}	2.7	mJ
Avalanche Current($L=0.5\text{mH}$)		I_{AS}	3.3	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	32	/ W
	Steady-State		62.5	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	3.5	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

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

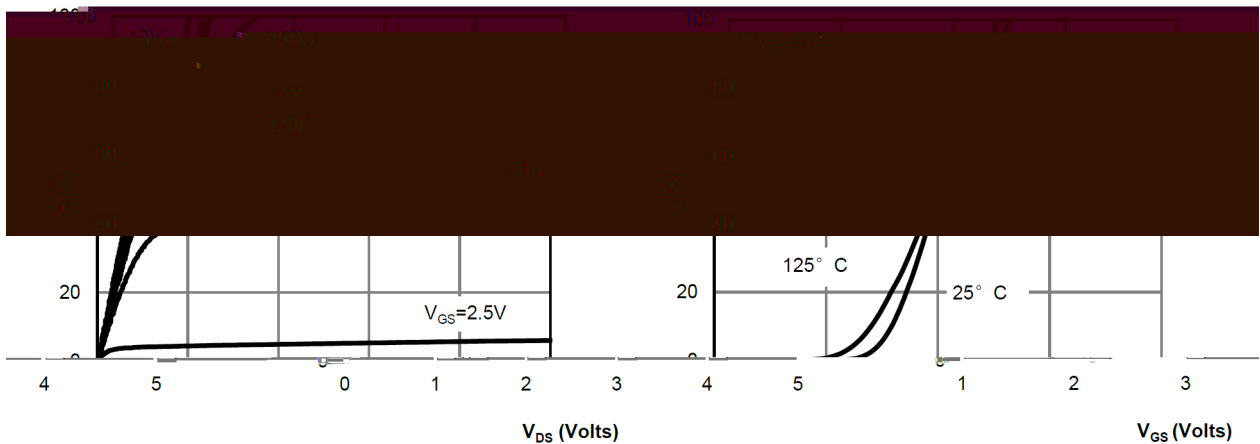


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

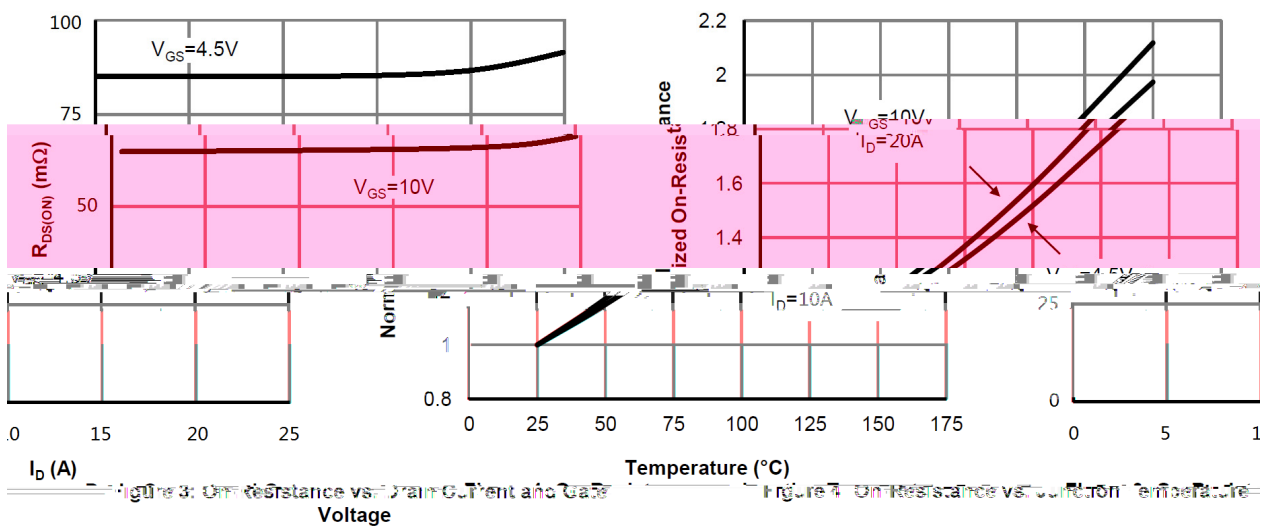
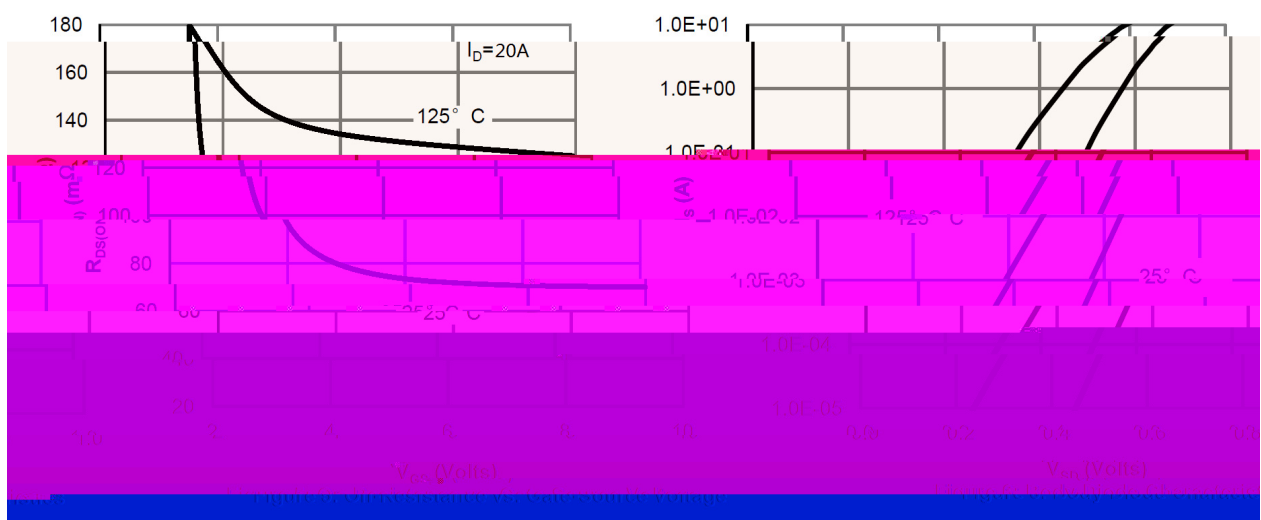
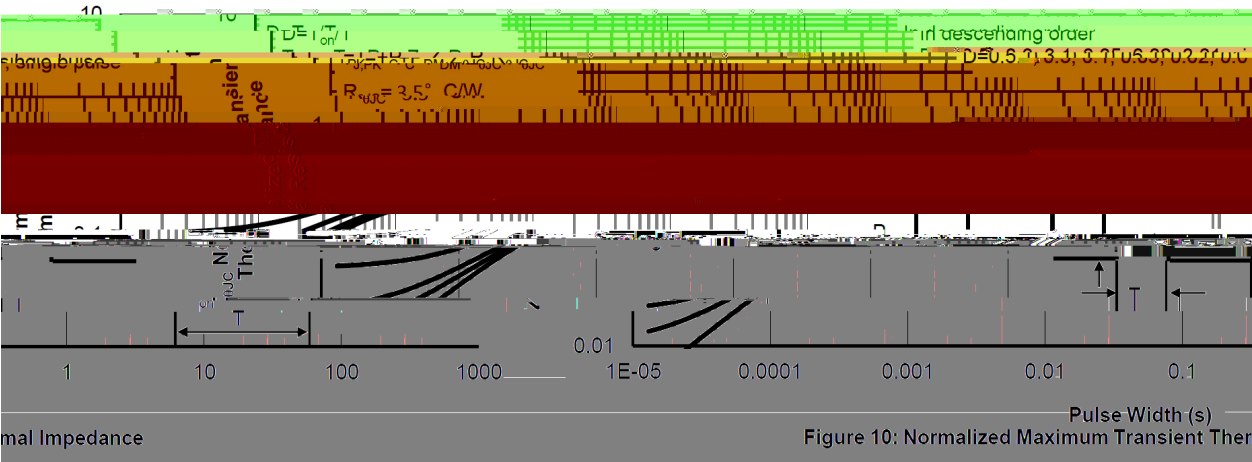
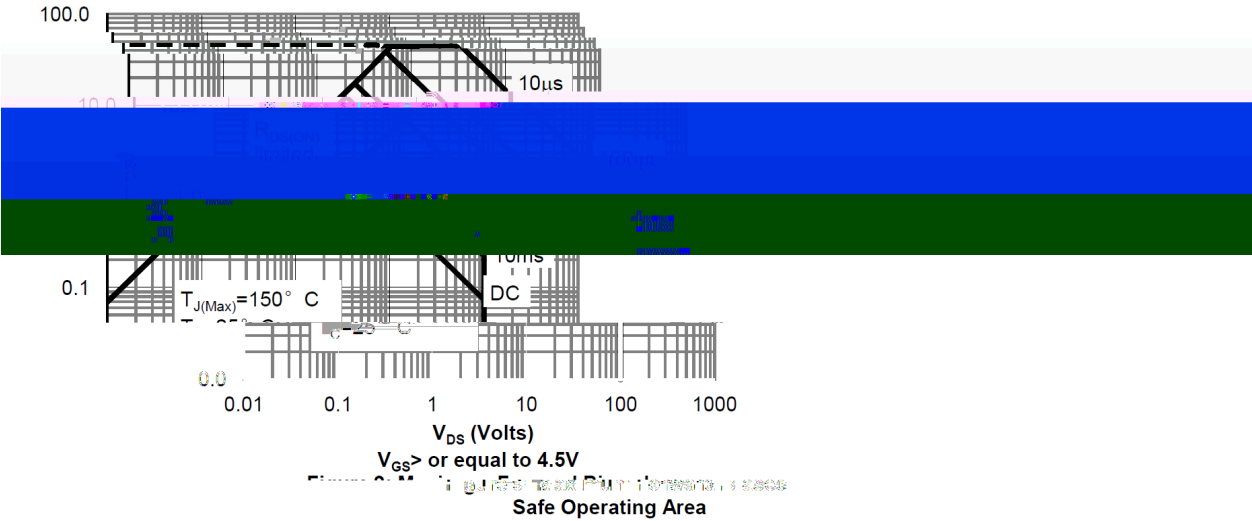
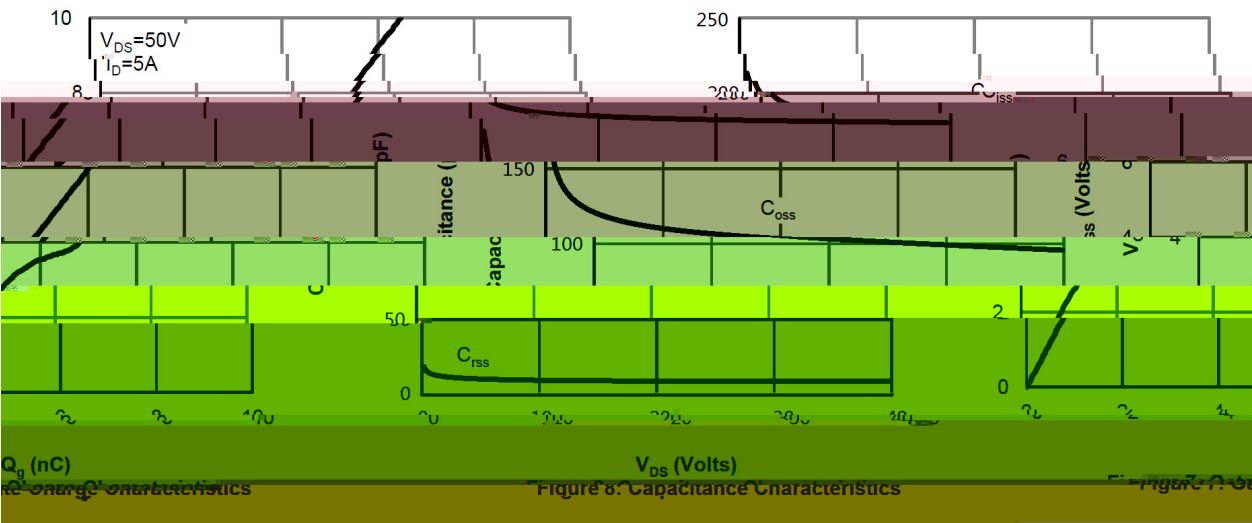


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature



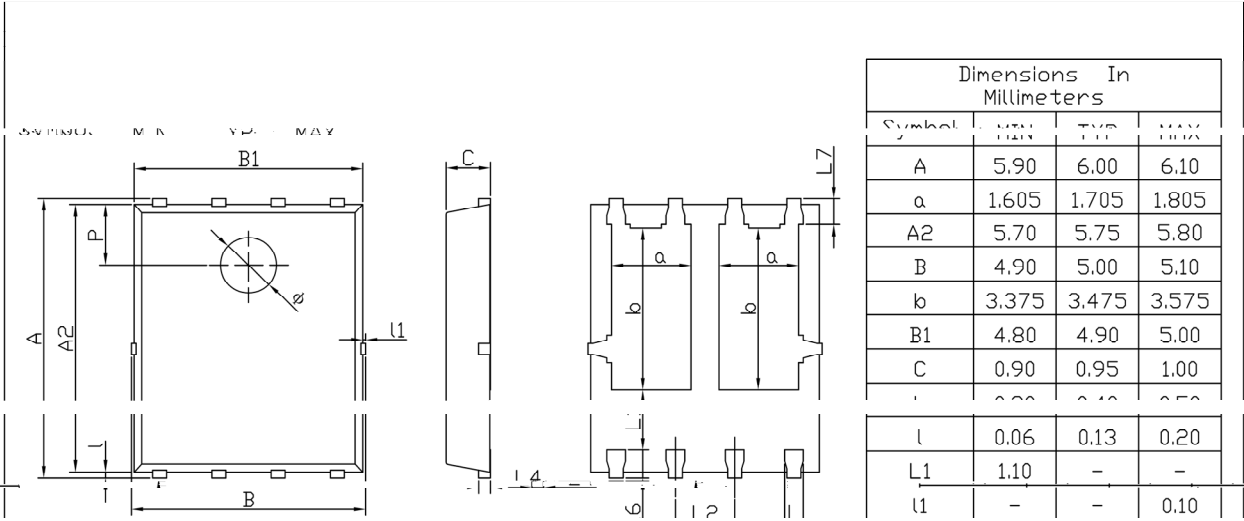
/ Electrical Characteristic Curve



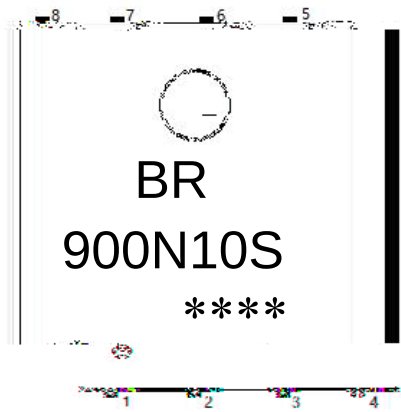
/ Package Dimensions

PDFN5 X6A

Unit:mm



/ Marking Instructions



BR

900N10S

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;
 2 245±5 5±0.5sec;
 3 2 10 /sec.

- 1.Preheating:150~180 , Time:60~90sec.
 2.Peak Temp.:245±5 , Duration:5±0.5sec.
 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