/ 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)<90mΩ(VGS=10V)

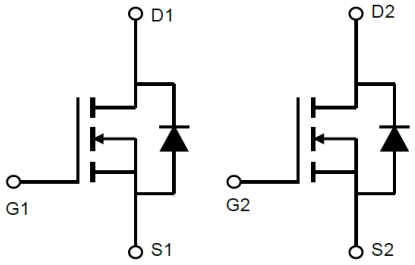
RDS(ON)<130mΩ(VGS=4.5V)

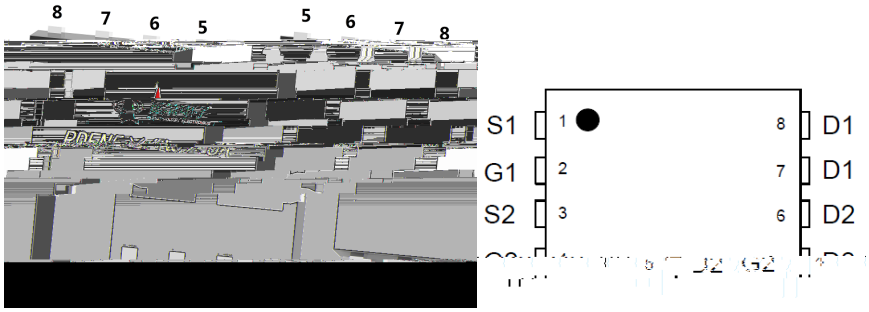
HF Product.

/ 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}	± 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	$R_{\theta JA}$	32	/ W
	Steady-State		62.5	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	3.5	

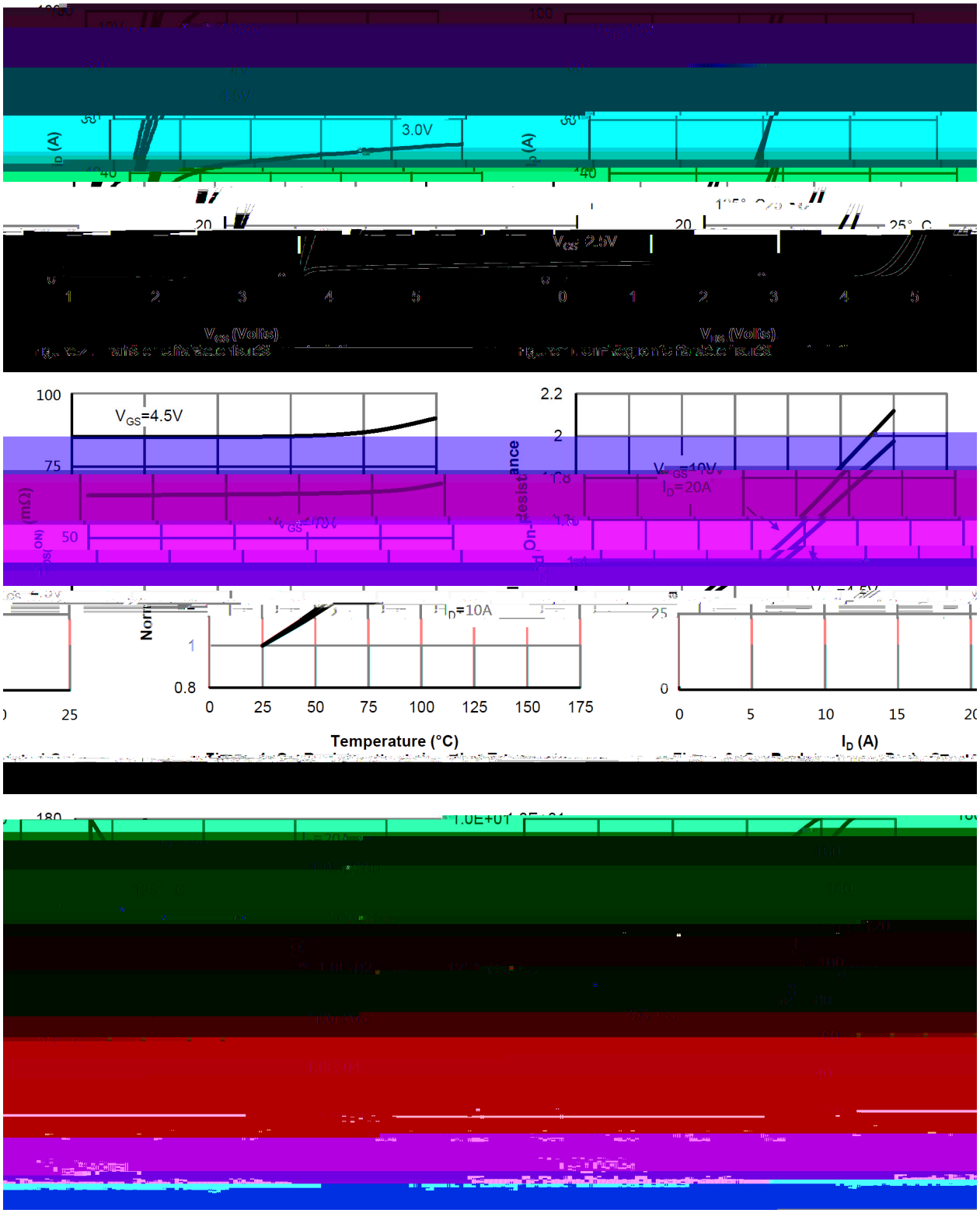
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100, V_{GS}=0V			1.0	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1	1.4	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		68	90	mΩ
		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		Ω
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		

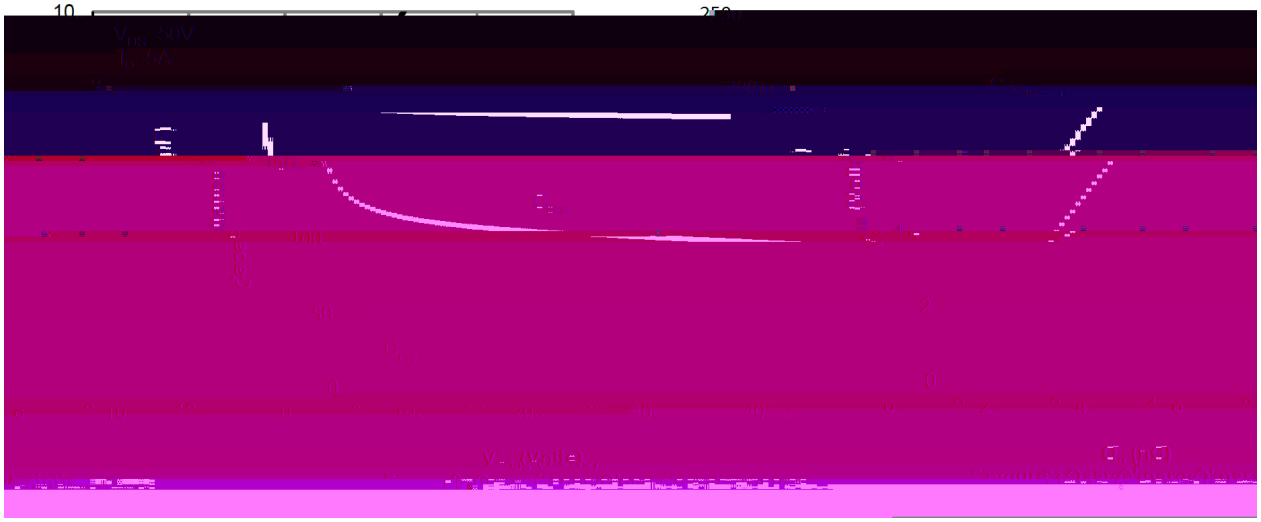
/ Electrical Characteristics(Ta=25)

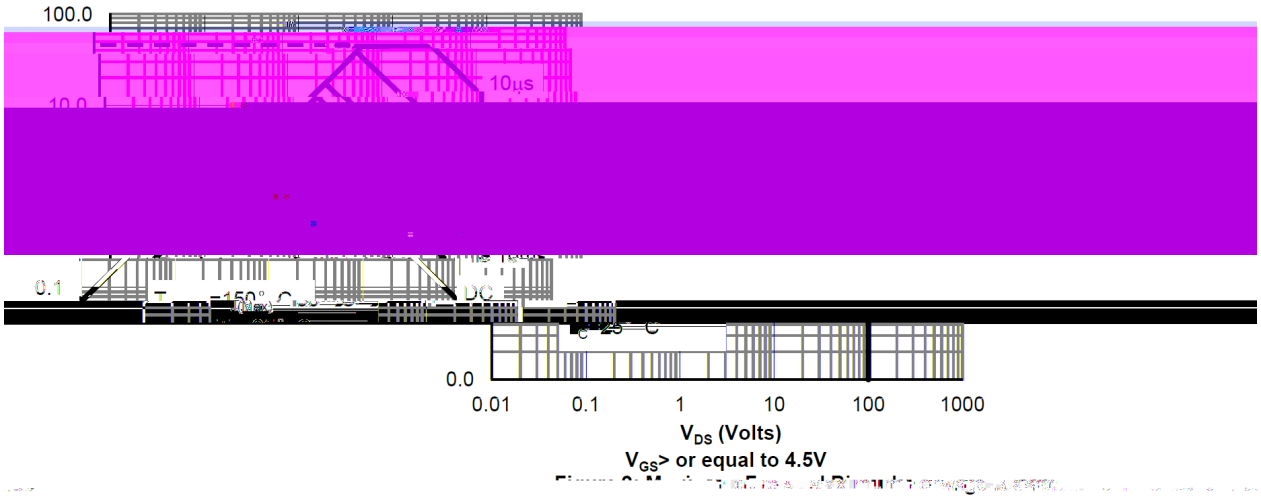
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=50V R_L=10Ω R_{GEN}=3Ω		4		ns
Turn-On Rise Time	t_r			2		
Turn-Off Delay Time	$t_{d(off)}$			15		
Turn-Off Fall Time	t_f			2		

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve





Safe Operating Area

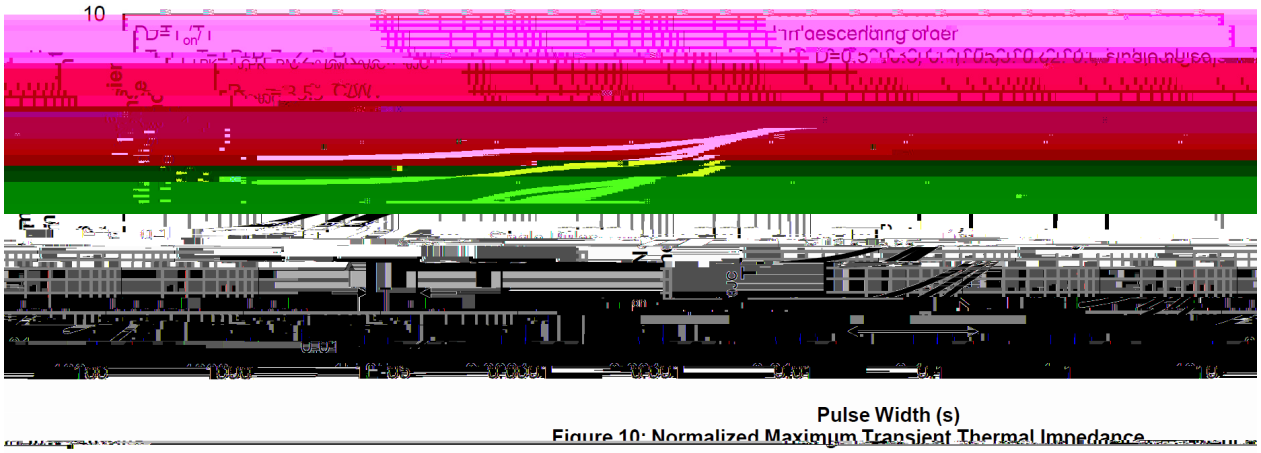


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

PDFN5X6A

Unit:mm

Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
[illegible]	[illegible]	[illegible]	[illegible]
A2	5.70	5.75	5.80
[illegible]	[illegible]	[illegible]	[illegible]
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
l	0.06	0.13	0.20
[illegible]	[illegible]	[illegible]	[illegible]

/ 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