PDFN5×6 N

N-Channel MOSFET in a PDFN5×6 Plastic Package.

V_{DS}(V)=500V I_D=3A

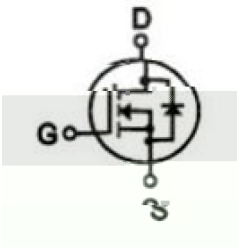
$R_{DS(ON)}$@10V<1.6Ω(Typ. 1.5Ω)

$R_{DS(ON)}$@6V<2.0Ω(Typ. 1.6Ω)

ÂHF Product.

LED

Used in high-frequency switching power supply, electronic ballast, LED power supply and high-speed air duct.



/ Absolute Maximum Ratings(Ta=25)

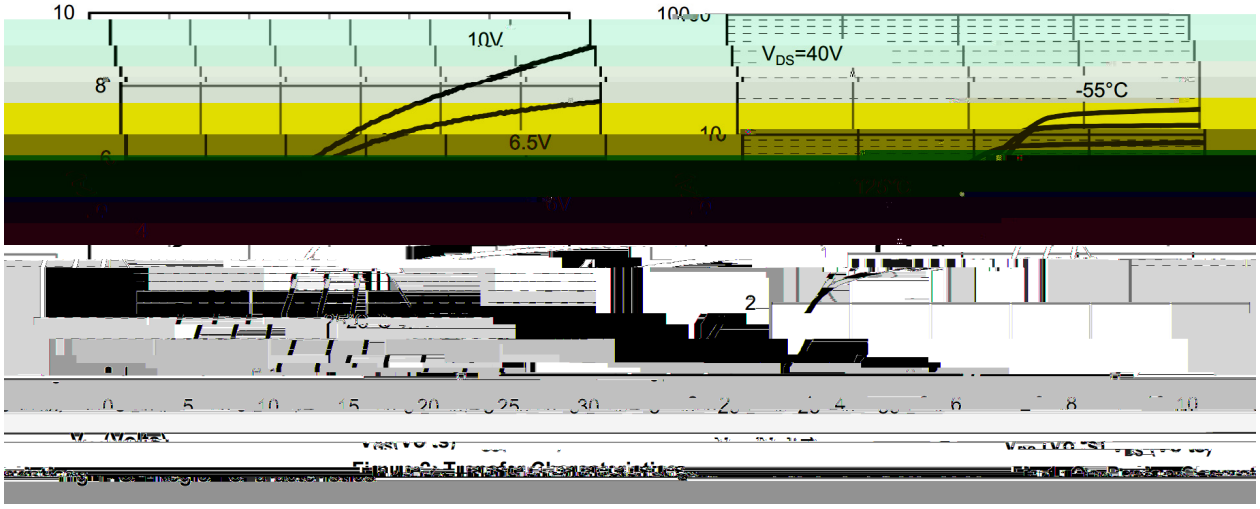
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	500	V
Drain Current	I_D(Tc=25)	3	A
Drain Current - Pulsed	I_{DM}	9.2	A
Gate-Source Voltage	V_{GSS}	±30	V
Avalanche Current	I_{AR}	7	A
Single Pulsed Avalanche Energy	E_{AS}	218	mJ
Power Dissipation (T_C=25)	P_D	33	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	
Thermal resistance,Junction to Case	R ç JC	3.79	/ W

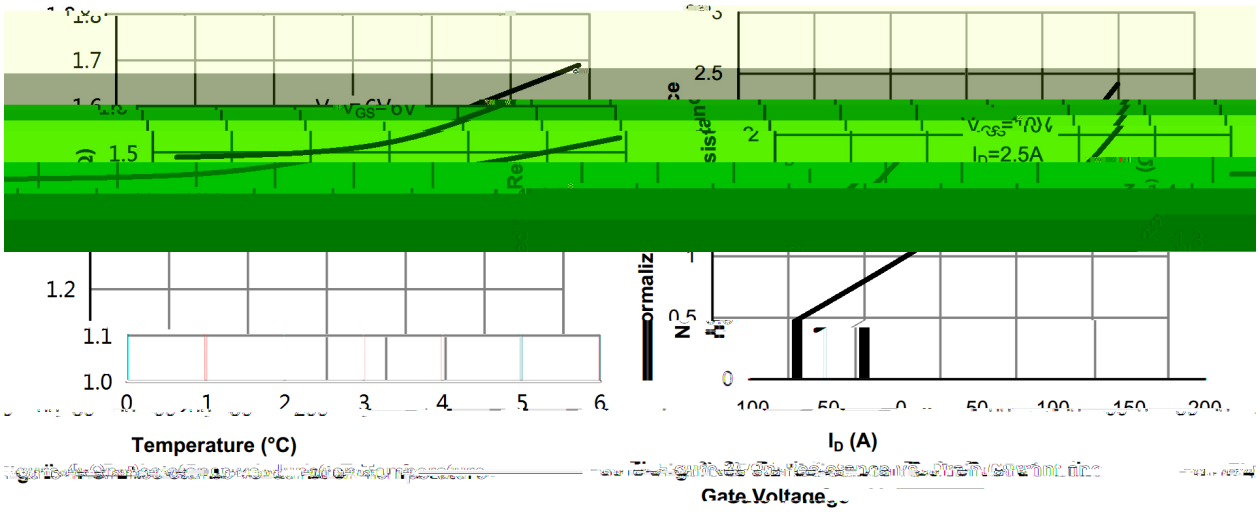
/ Electrical Characteristics(Ta=25)

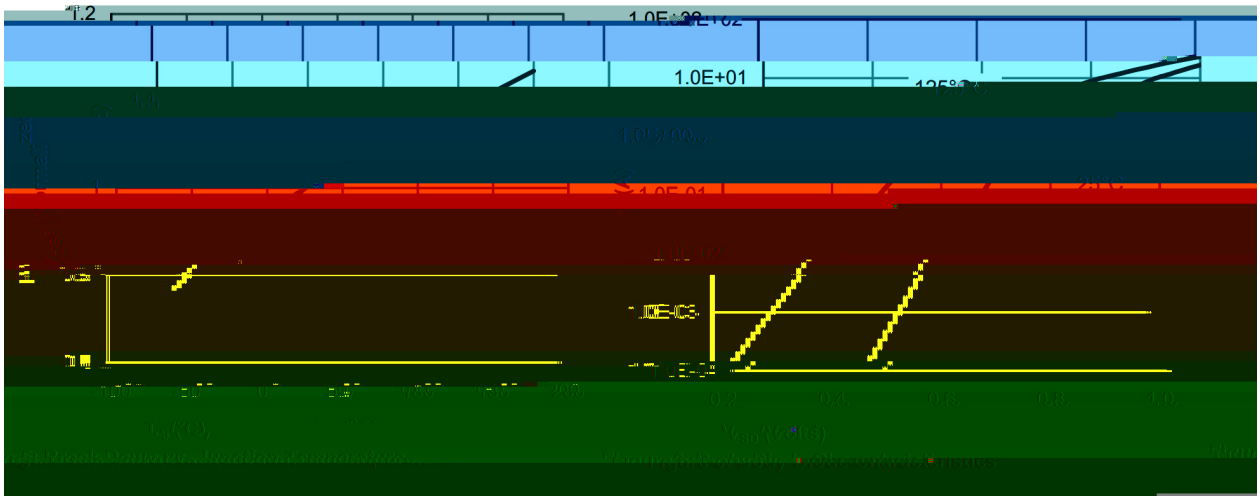
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	500	560		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=500V V_{GS}=0V			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	2	3.2	4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V I_D=2.5A		1.5	1.6	Ω
	$R_{DS(on)}$	V_{GS}=6V I_D=1A		1.6	2.0	Ω
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		570		pF
Output Capacitance	C_{oss}			150		pF
Reverse Transfer Capacitance	C_{rss}			10		pF
Total Gate Charge	Q_G	V_{DS}= 400V, I_D= 5.0A, V_{GS}= 10V		25		nC
Gate-Source Charge	Q_{GS}			6		
Gate-Drain Charge	Q_{GD}			8		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=250V I_D=5.0A R_G=25Ω		32		ns
Turn-On Rise Time	t_r			55		
Turn-Off Delay Time	$t_{d(off)}$			85		

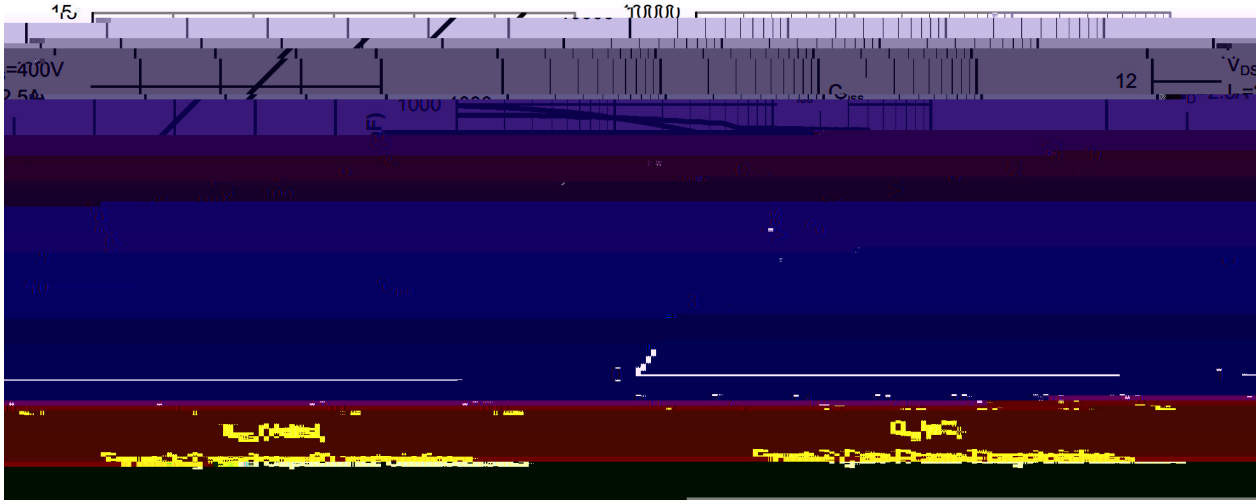
/ Electrical Characteristic Curve

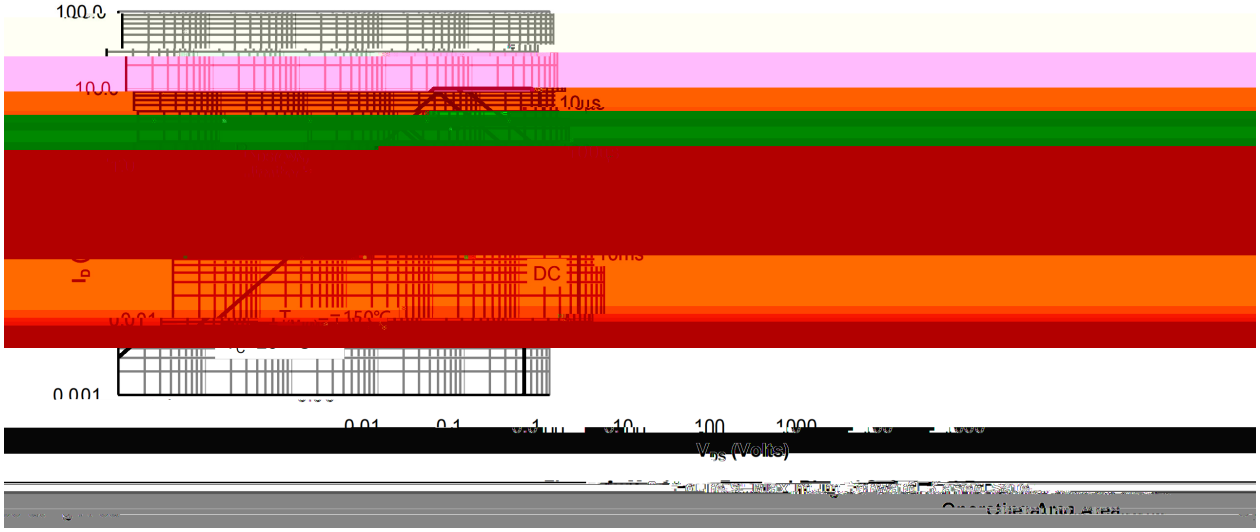






/ Electrical Characteristic Curve





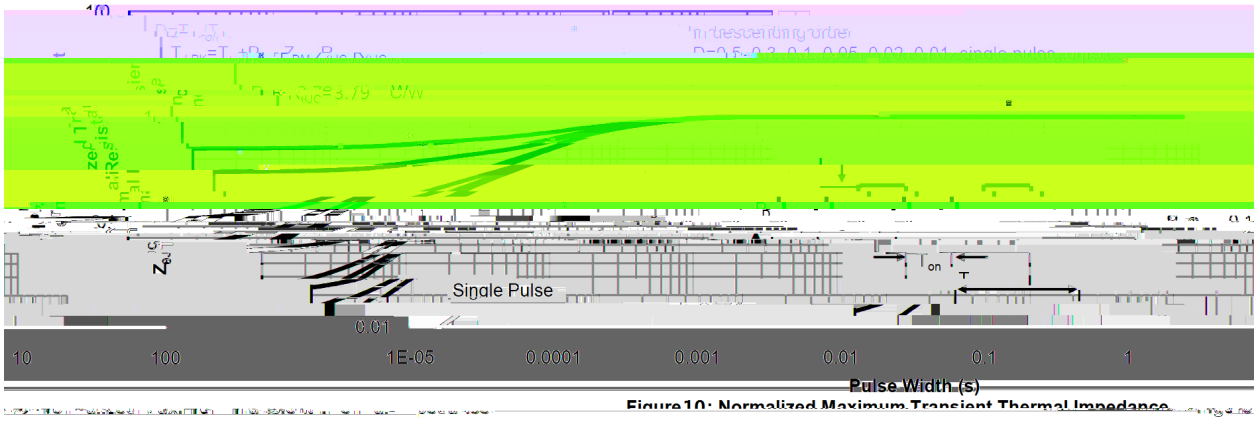
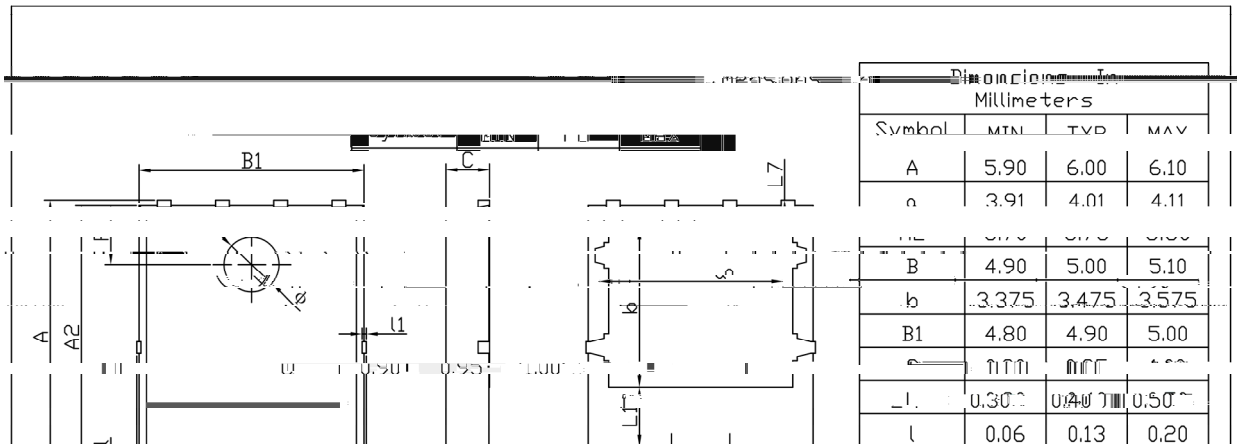


Figure10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

B

PDFN5×6 Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
D	3.91	4.01	4.11
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
L	0.30	0.40	0.50
L1	0.06	0.13	0.20

/ Marking Instructions

BR

5N50

****

Note

5N50