/ Descriptions

PDFN5×6A MOS

Complementary Enhancement MOSFET in a PDFN5×6A Plastic Package.

/ Features

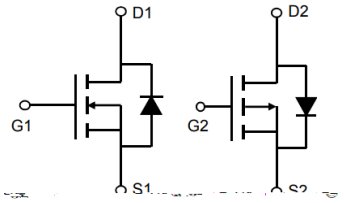
N-channel	P-channel
V_{DS}(V)=30V	V_{DS}(V)=-30V
I_D=39.5A	I_D=-39A
$R_{DS(ON)}$<10mΩ(V_{GS}=10V)	$R_{DS(ON)}$<12mΩ(V_{GS}=-10V)
$R_{DS(ON)}$<15mΩ(V_{GS}=4.5V)	$R_{DS(ON)}$<20mΩ(V_{GS}=-4.5V)

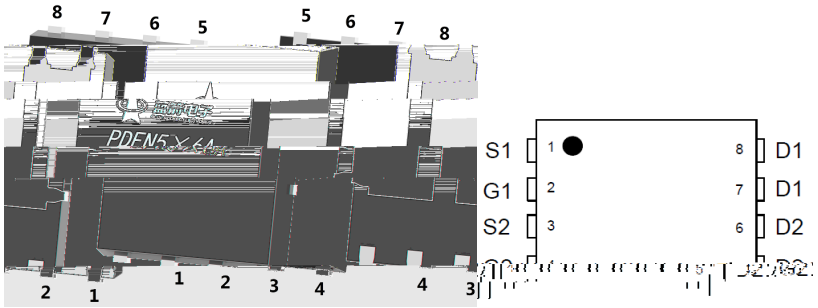
HF Product.

/ Applications

DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies. And suitable for use as a load switch or in PWM applications.





/ Marking

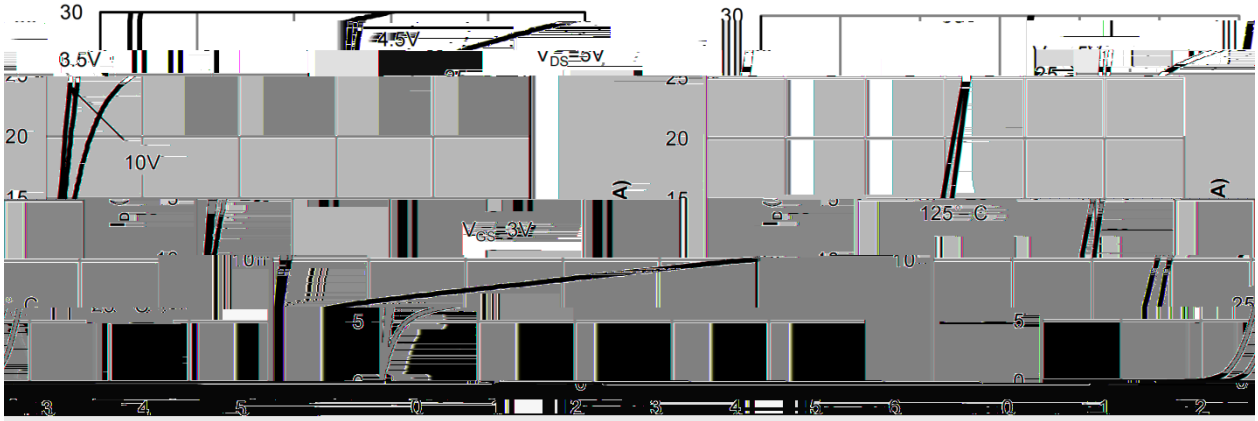
See Marking Instructions.

/ Absolute Maximum Ratings(T_a=25)

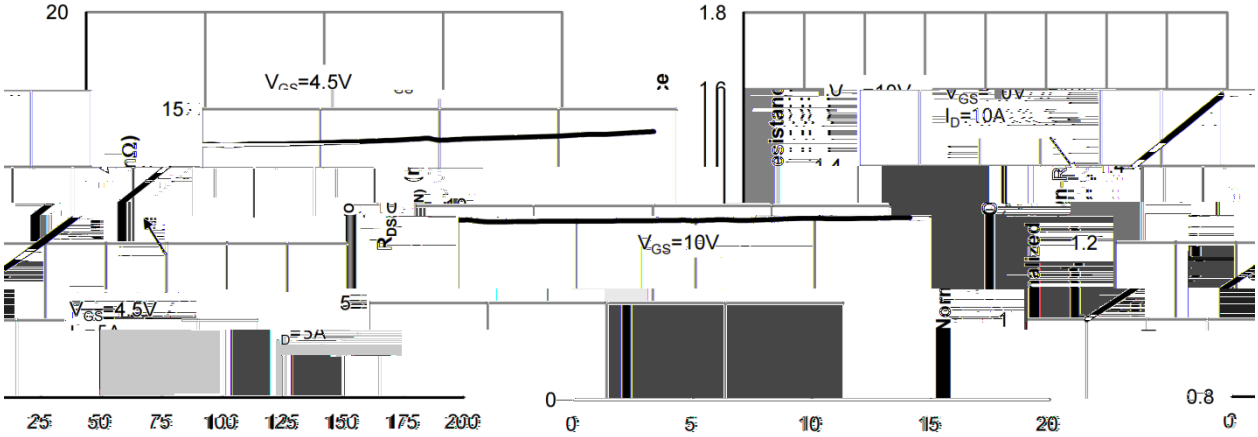
Parameter	Symbol	Rating		Unit
		N-channe	P-channell	
Drain-Source Voltage	V_{DSS}	±30		V
Gate-Source Voltage	V_{GSS}	±20		V
Continuous Drain Current	I_D (T_C=25℃)	39.5	-39	A
Pulsed Drain Current	I_{DM}	125	-125	A
Avalanche Current(L=0.5mH)	I_{AS}	17	13	A
Avalanche energy(L=0.5mH)	E_{AS}	115	67	mJ
Power Dissipation	P_D (T_C=25)	25	25	W
Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150		
Maximum Junction-to-Ambient	R_{JA}	65		/W
Maximum Junction-to-Case	R_{JC}	5		

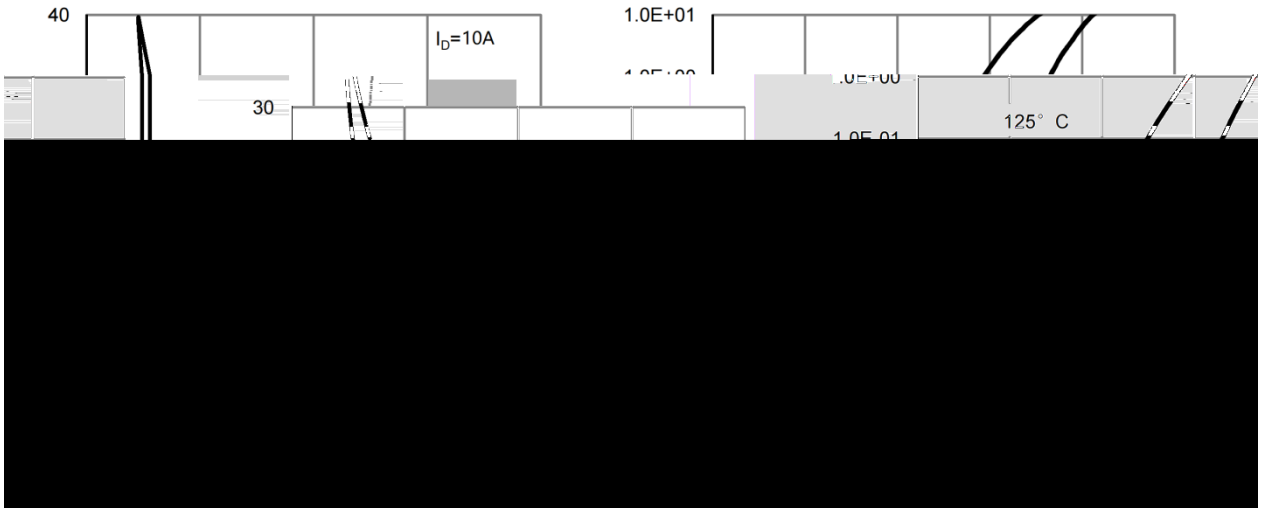
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V	V_{GS}=0V			1.0	μA
Gate-Body leakage current	I_{GSS}	V_{GS}=±20V	V_{DS}=0V			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=10A		8	10	mΩ
		V_{GS}=4.5V	I_D=5A		12	15	mΩ
Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=1.0A			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V f=1.0MHz	V_{GS}=0V		930		pF
Output Capacitance							

N- / N-CHANNEL Electrical Characteristic Curve



Volts)
On-Region Characteristics
V_{GS} (Volts)
Figure 2: Transfer Characteristics
V_{DS} (V
Figure 1: T





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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown						

P– / P-CHANNEL Electrical Characteristic Curve

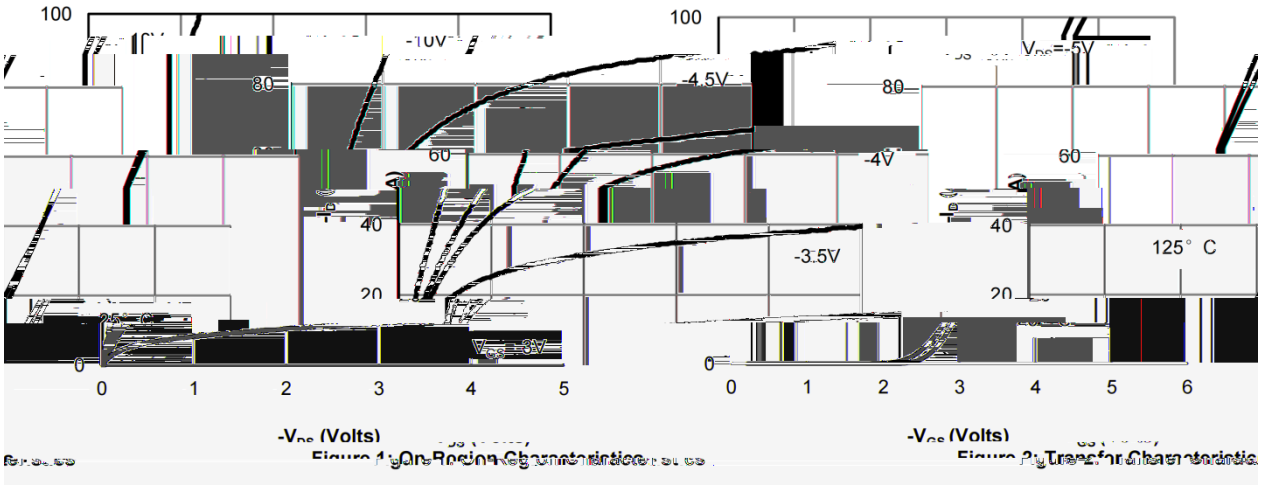


Figure 1: On-Region Characteristics

Figure 2: Transfer Characteristics

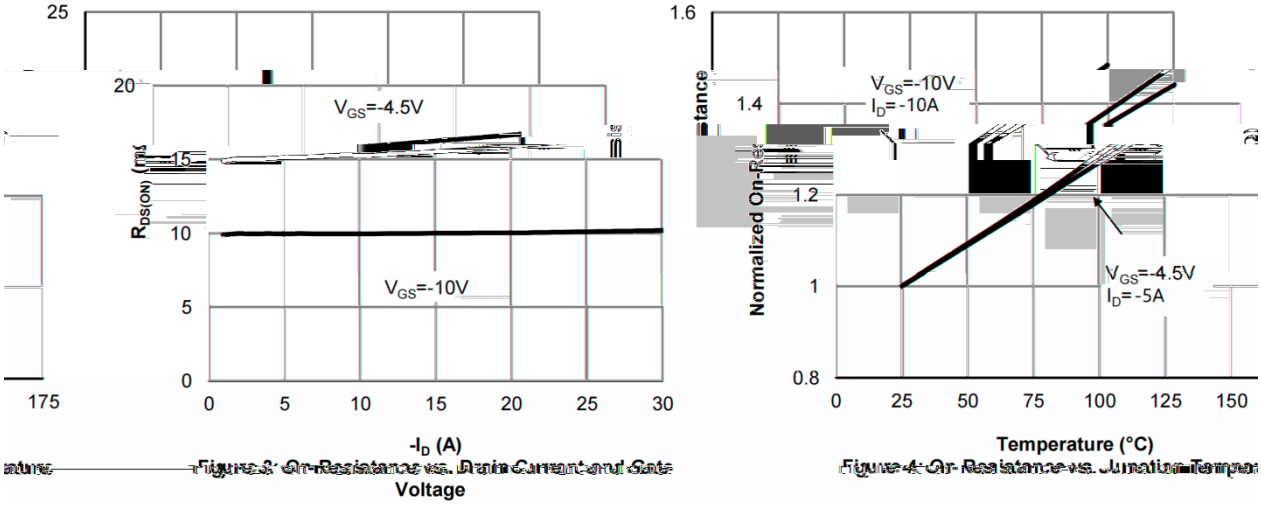


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

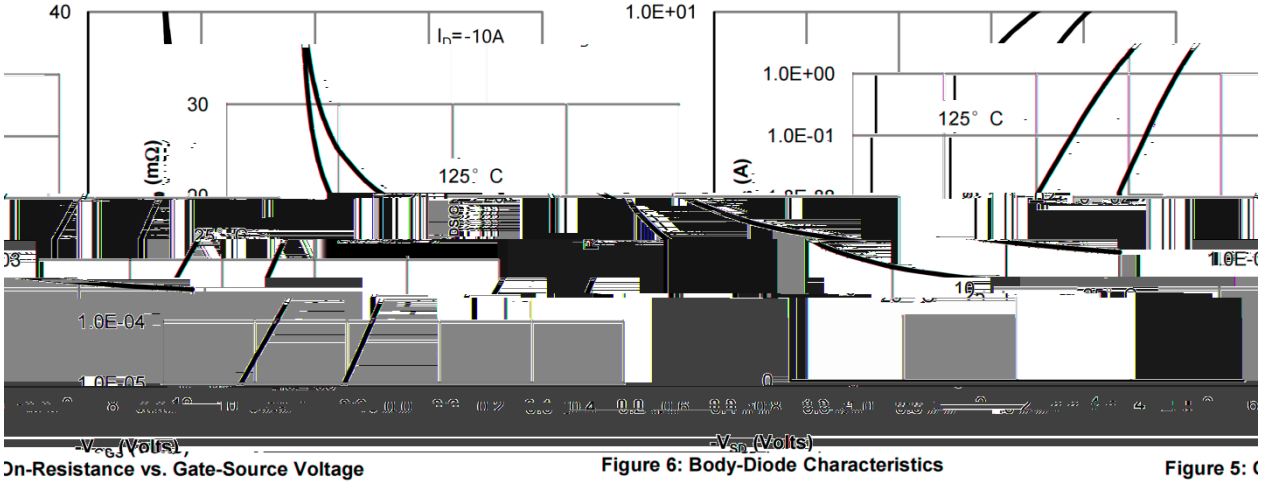


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

P– / P-CHANNEL Electrical Characteristic Curve

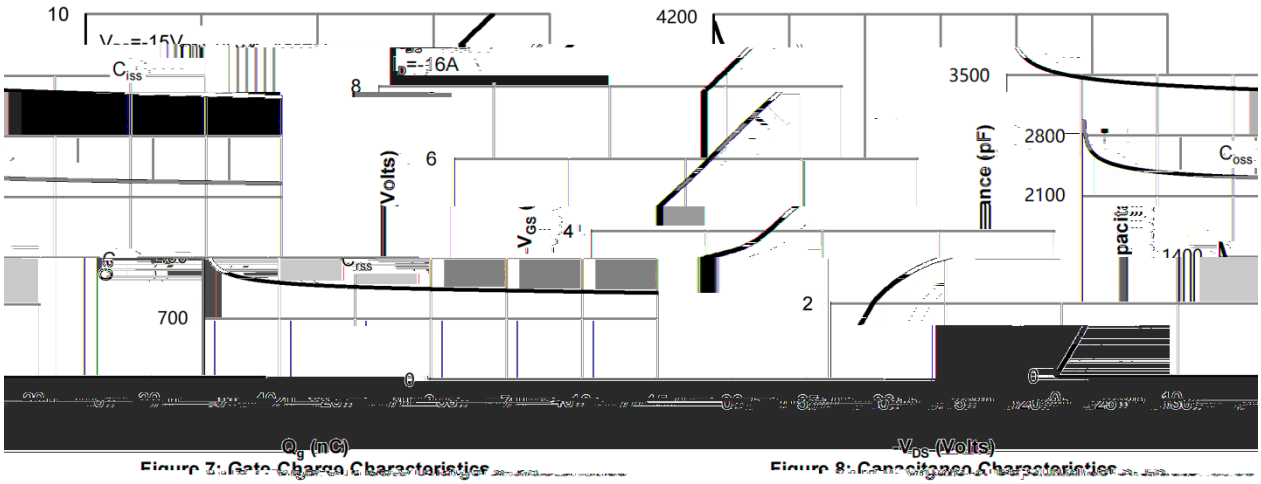
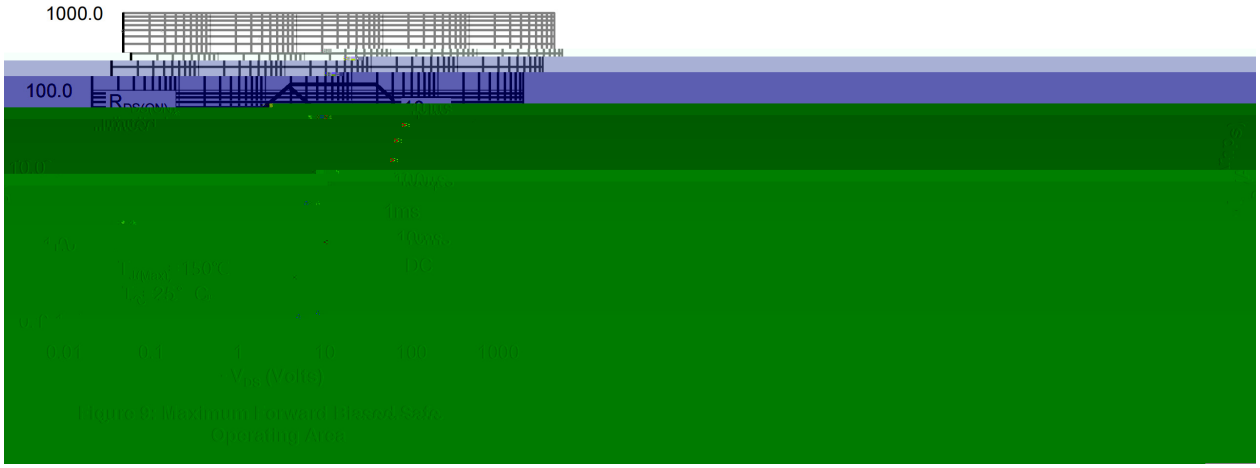


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics



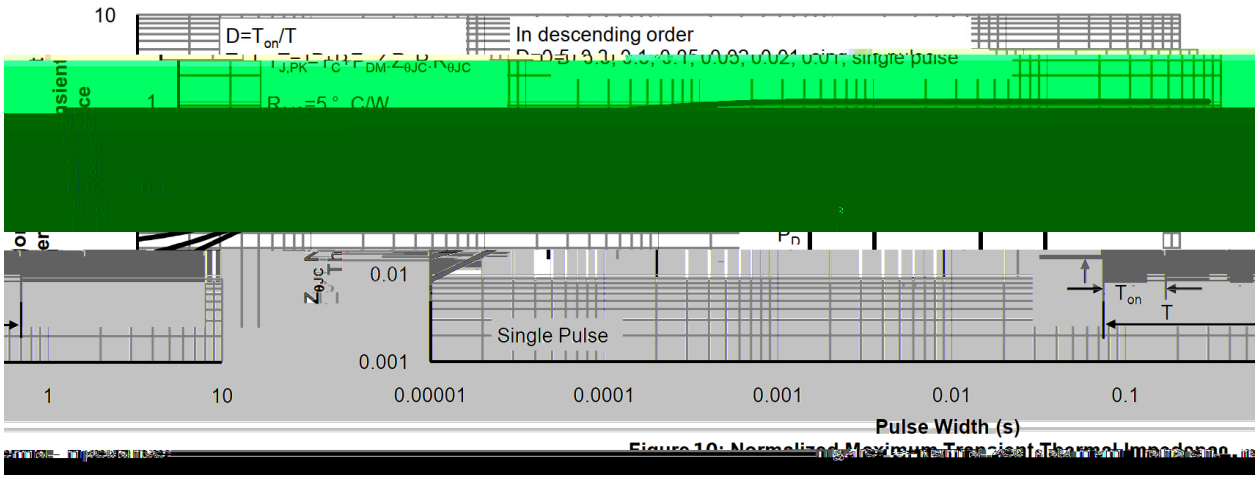
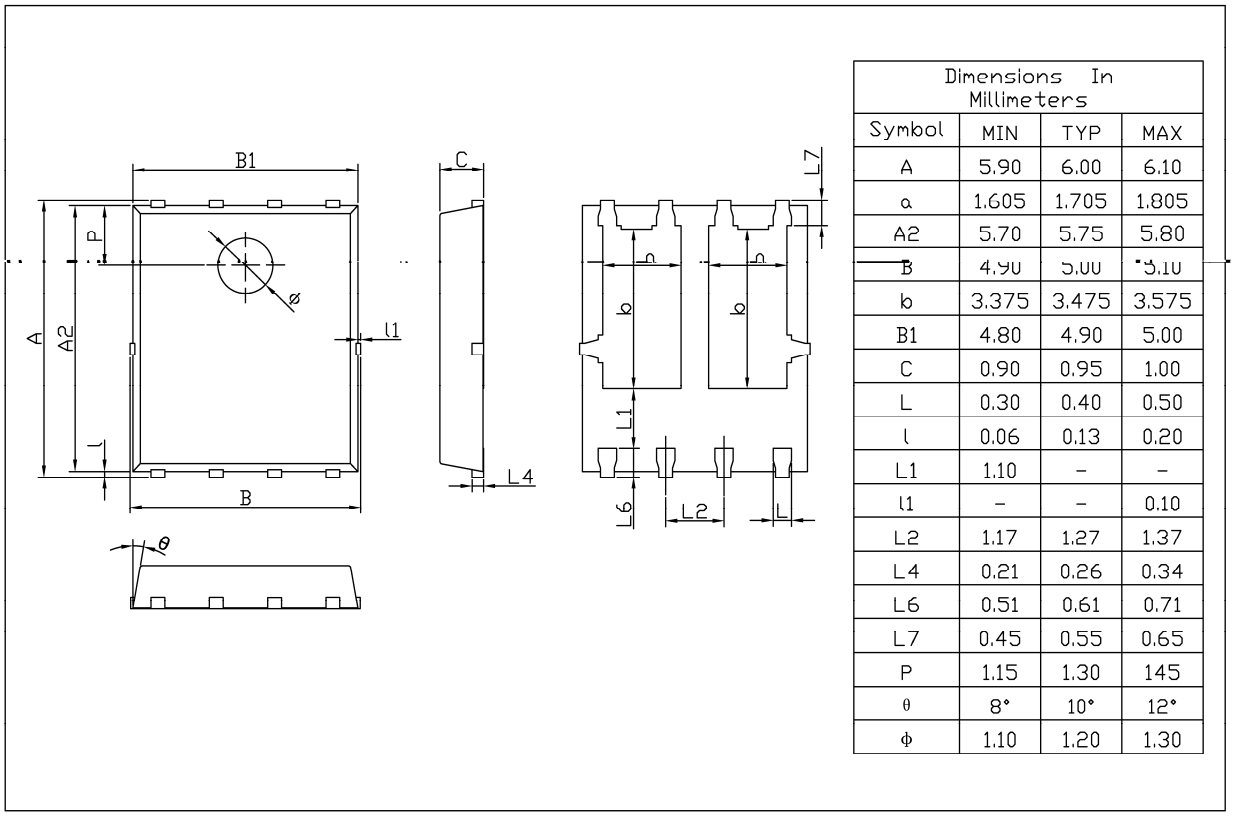


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

PDFN5X6A

Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
α	1.605	1.705	1.805
A2	5.70	5.75	5.80
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
C	0.90	0.95	1.00
L	0.30	0.40	0.50
l	0.06	0.13	0.20
L1	1.10	–	–
l1	–	–	0.10
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.45	0.55	0.65
P	1.15	1.30	145
θ	8°	10°	12°
ϕ	1.10	1.20	1.30

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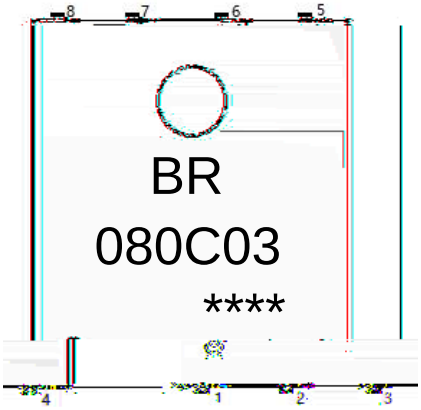
/ Marking Instructions



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080C03

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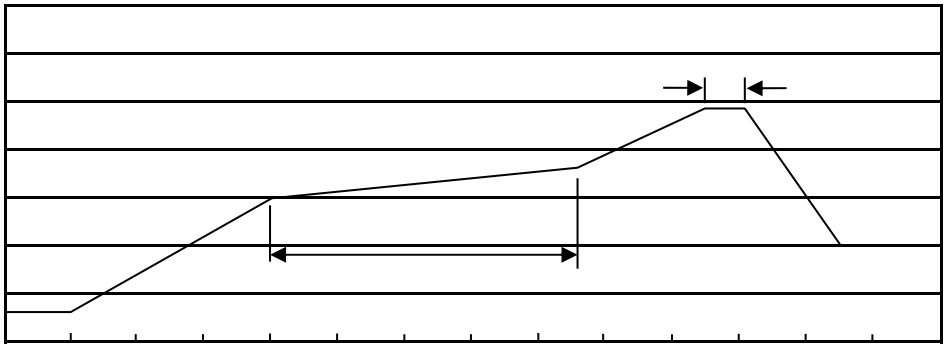
Note

BR	Company Code
080C03	Product Type Code
****:	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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension		(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
PDFN5×6A	5,000	2	10,000	6	60,000	13''×12	360×360×50	380×335×366

/ Notices