/ Absolute Maximum Ratings(T_a=25)

Pa a		S b	Ra	U
D a -S c V a		V_{DS}	60	V
C D a C		I_D	43	A
P d D a C		I_{DM}	111	A
Ga -S c V a		V_{GS}	± 20	V
P D a		P_D(T_c=25	43	W
A a a c (L=0 5 H		E_{AS}	200	J
A a a c C (L=0 5 H		I_{AS}	20	A
J c a d S a T a Ra		T , T	-55 150	
Ma J c - -A b	≤ 10	$R_{\theta JA}$	25	W
	S ad -S a		60	
Ma J c - -Ca	S ad -S a	$R_{\theta JC}$	2 9	

/ Electrical Characteristics(Ta=25)

Pa a	S b	T C d	M	T	Ma	U
D a -S c B a d V a	BV_{DSS}	V_{GS}=0V I_D=250μA	60	64		V
Z Ga V a D a C	I_{DSS}	V_{DS}=60V V_{GS}=0V			1	μA
Ga -B d L a a C F a d	I_{GSS}	V_{GS}= 20V V_{DS}=0V			0 1	μA
Ga T d V a	$V_{GS(}$	V_{DS}=V_{GS} I_D=250μA	1 0	1 6	2 5	V
S a c D a -S c O -R a c	$R_{DS(}$	V_{GS}=10V I_D=20A		11 5	13	Ω
		V_{GS}=4 5V I_D=10A		15 5	18	Ω
D a -S c D d F a d V a	V_{SD}	V_{GS}=0V I_S=1A			1 2	V
I Ca ac a c	C	V_{DS}=25V V_{GS}=0V =1 0MH		1010		F
O Ca ac a c	C			250		
R T a Ca ac a c	C			280		
Ga a c	R	V_{GS}=0V V_{DS}=0V =1MH		2 3		Ω
T a Ga C a	Q (10V	V_{GS}=10V V_{DS}=30V I_D=13A		13 5		C
T a Ga C a	Q (4 5V			6 5		
Ga S c C a	Q			2 5		
Ga D a C a	Q d			3 0		

/ Electrical Characteristics(Ta=25)

Pa a	S b	T C d	M	T	Ma	U
T -O D a T	d(	V_{GS}=10V V_{DS}=30V R_L=2 3Ω R_{GEN}=3Ω		5		
T -O R T				3		
T -O D a T	d(			19		
T -O Fa T				3		

/ Electrical Characteristic Curve

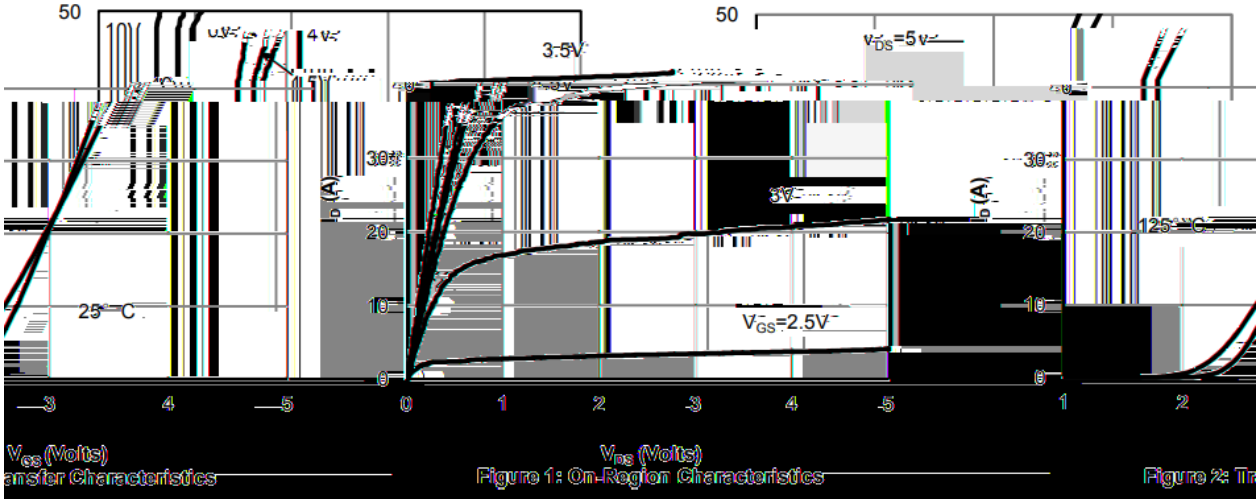
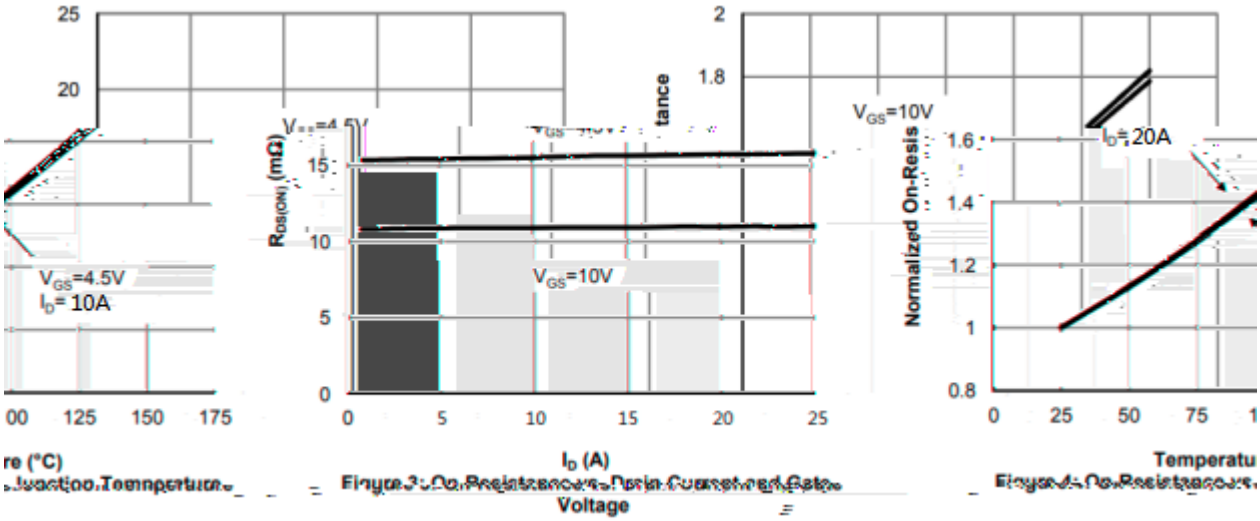


Figure 1: On-Region Characteristics

Figure 2: Tr



re (°C)

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

Temperatu

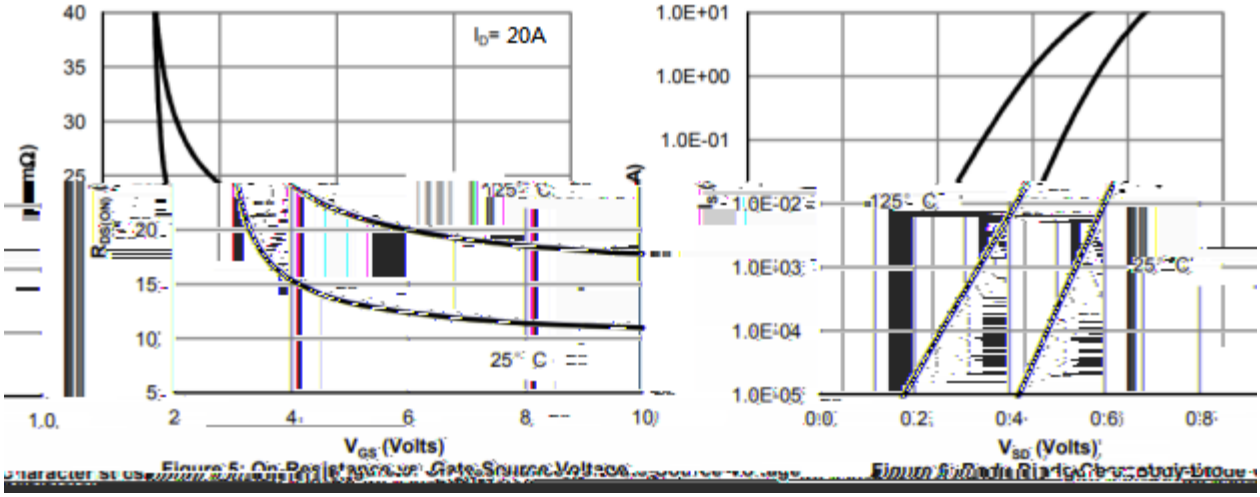


Figure 5: On-Resistance vs. Gate-Source Voltage

/ Electrical Characteristic Curve

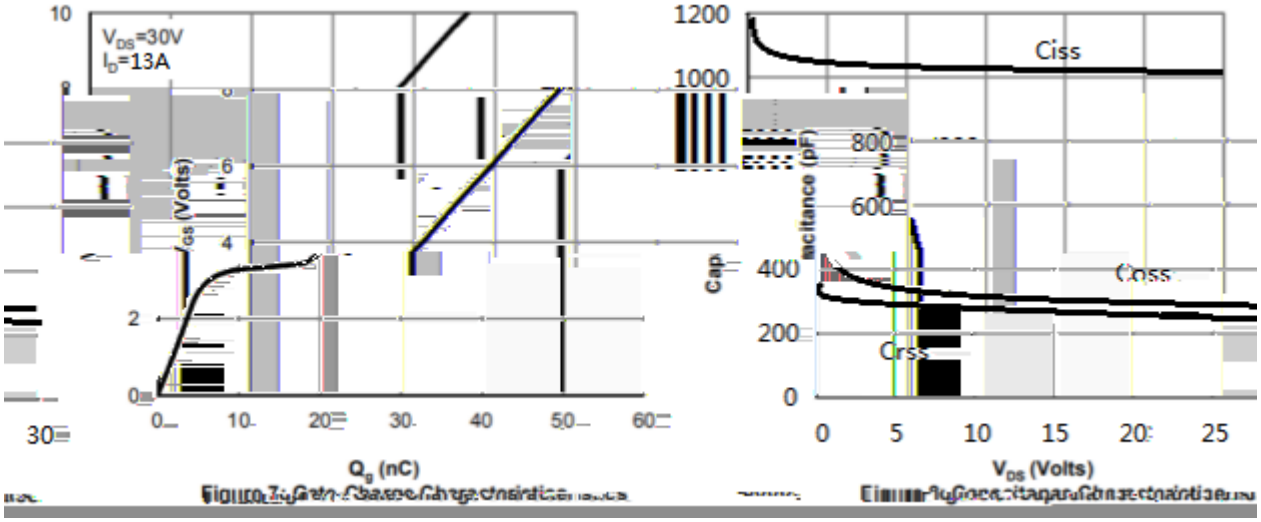


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

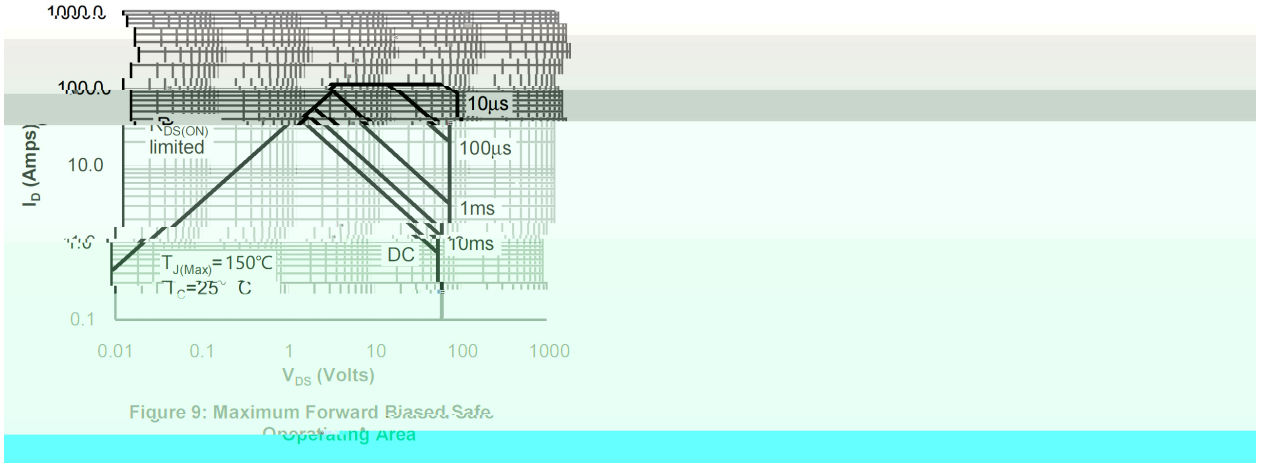


Figure 9: Maximum Forward Biased Safe Operating Area

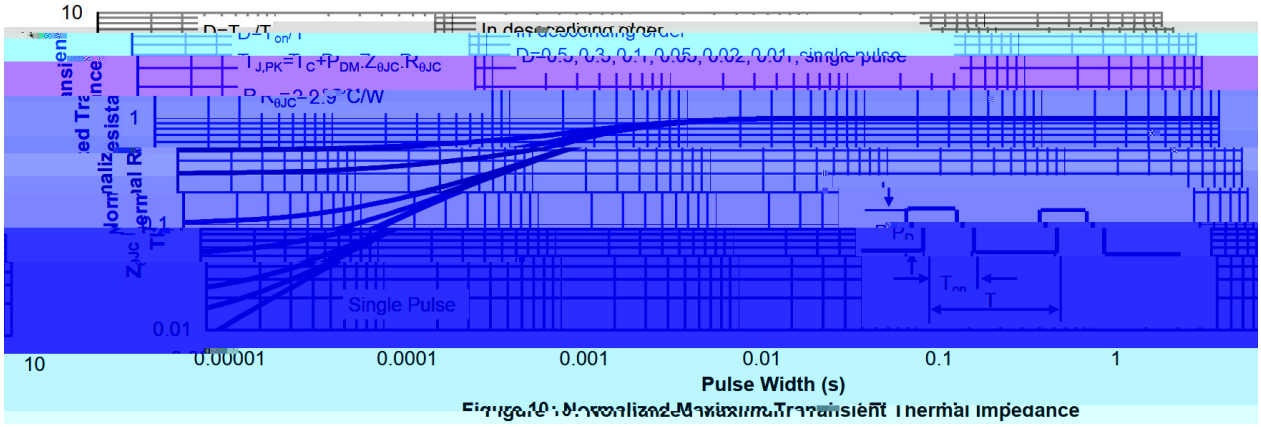
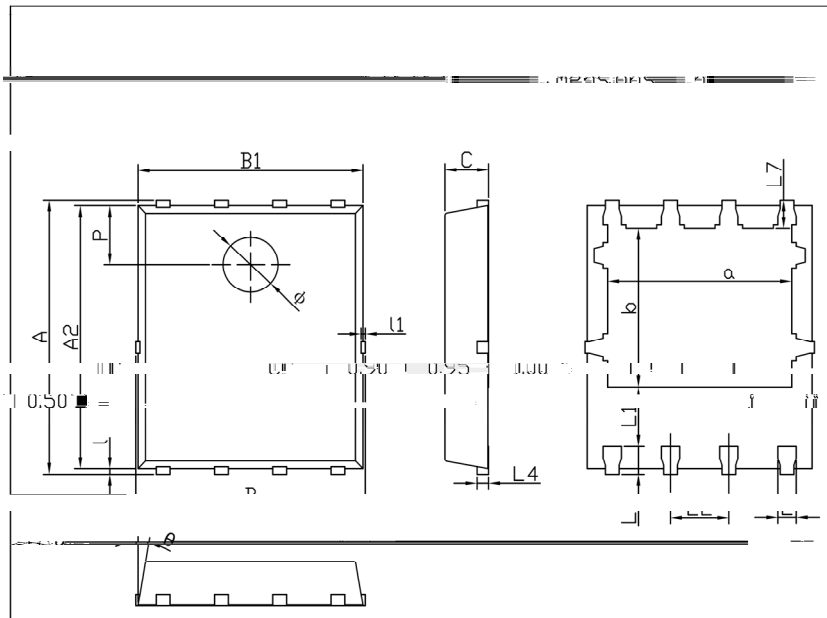


Figure 10: Normalized Maximum Transient Thermal Impedance

/ Package Dimensions

PDFN5X6 Unit:mm



Dimensions In Millimeters			
Symbol	MIN	TYP	MAX
A	5.90	6.00	6.10
a	3.91	4.01	4.11
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
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
l	0.06	0.13	0.20
L1	1.10	–	–
[illegible]	[illegible]	[illegible]	[illegible]
L2	1.17	1.27	1.37
L4	0.21	0.26	0.34
L6	0.51	0.61	0.71
L7	0.51	0.61	0.71
P	1.15	1.30	1.45
θ	8°	10°	12°
Φ	1.10	1.20	1.30

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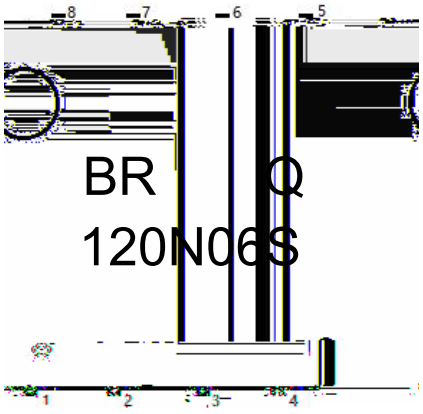
/ Marking Instructions



BR

Q

120N06S

****

N

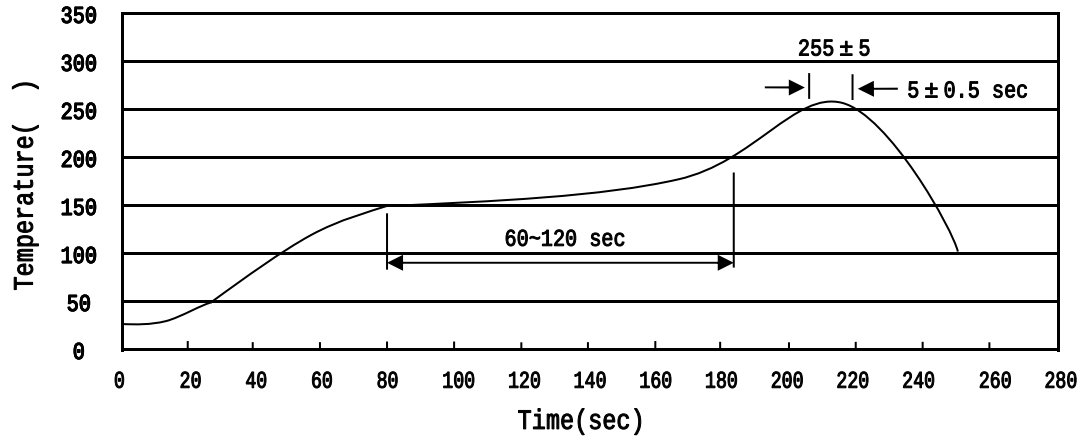
BR C a C d

Q: A b a - d c C d

120N06S P d c T C d

: L N C d , c d c a L N

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



N :

1 150 200 60 120 c; 1 P a :150 200 , T :60 120 c

2 255±5 5±0 5 c; 2 P a T :255±5 , D a :5±0 5 c

3 2 10 c 3 C S d: 2 10 c

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 c T :260 5 T :10 1 c

/ Packaging SPEC.

REEL

Pac a T	U					D		(3
	/	/	/	/	/			
PDFN5 6	5,000	2	10,000	6	60,000	13 12	360 360 50	380 335 366

/ Notices