PDFN5×6 N

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

V_{DS} (V) = 60V I_D =43A (V_{GS} = ±20V)

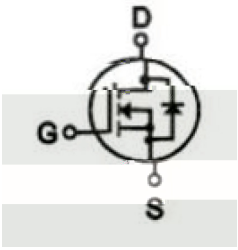
$R_{DS(ON)}$@10V≤13mΩ(Typ.11.5mΩ)

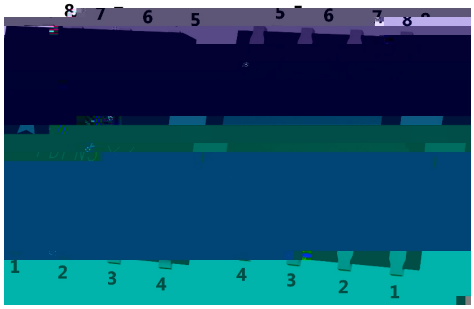
$R_{DS(ON)}$@4.5V≤18mΩ(Typ.15.5mΩ)

HF Product.

DC-DC

Secondary Side Synchronous Rectification, DC-DC Converter, Motor Control, Load Switching.





PIN1 2 3 S PIN4 G PIN5 6 7 8 D

Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D

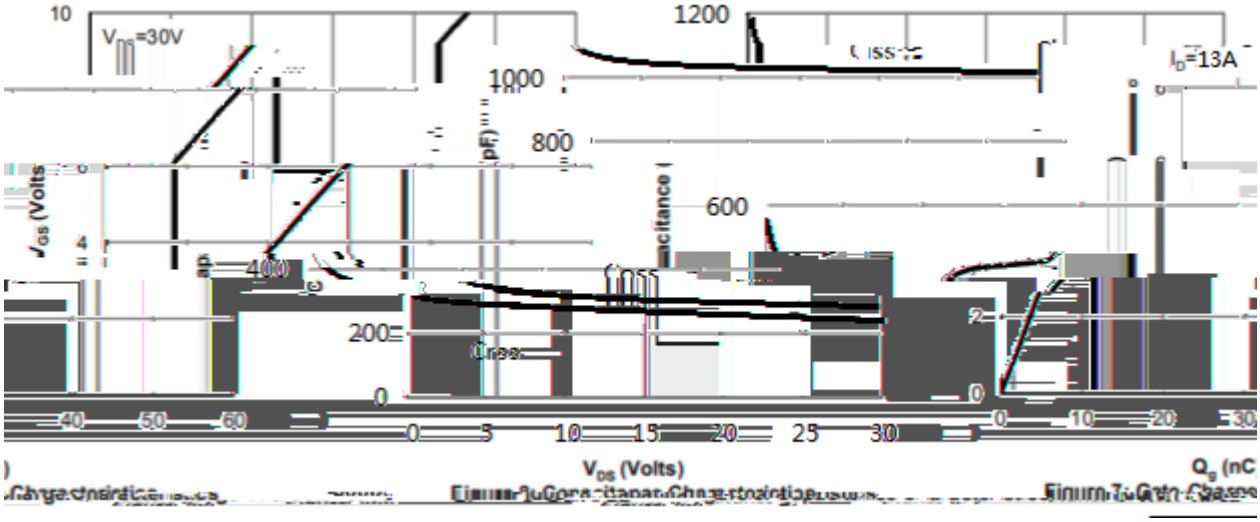
See Marking Instructions.

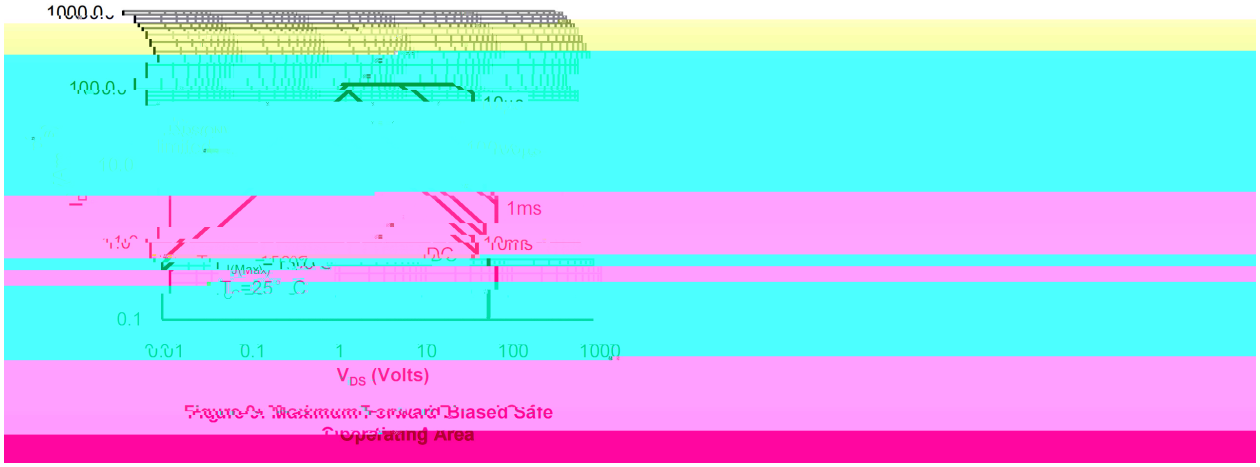
Rev.A May.-2024

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Continuous Drain Current		I_D	43	A
Pulsed Drain Current		I_{DM}	111	A
Gate-Source Voltage		V_{GS}	± 20	V
Power Dissipation		$P_D(T_c=25\ \ )$	43	W
Avalanche energy(L=0.5mH)		E_{AS}	200	mJ
Avalanche Current(L=0.5mH)		I_{AS}	20	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	t ≤ 10s	$R_{\theta JA}$	25	/ W
	Steady-State		60	
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	2.9	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	60	64		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V V_{GS}=0V			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	μA
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=20A		11.5	13	mΩ
		V_{GS}=4.5V I_D=10A		15.5	18	mΩ
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		1010		pF
Output Capacitance	C_{oss}			250		
Reverse Transfer Capacitance	C_{rss}			280		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		2.3		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V V_{DS}=30V I_D=13A		13.5		nC
Total Gate Charge	$Q_{g(4.5V)}$			6.5		
Gate Source Charge	Q_{gs}			2.5		
Gate Drain Charge	Q_{gd}			3.0		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=2.3Ω R_{GEN}=3Ω		5		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{d(off)}$			19		
Turn-Off Fall Time	t_f			3		

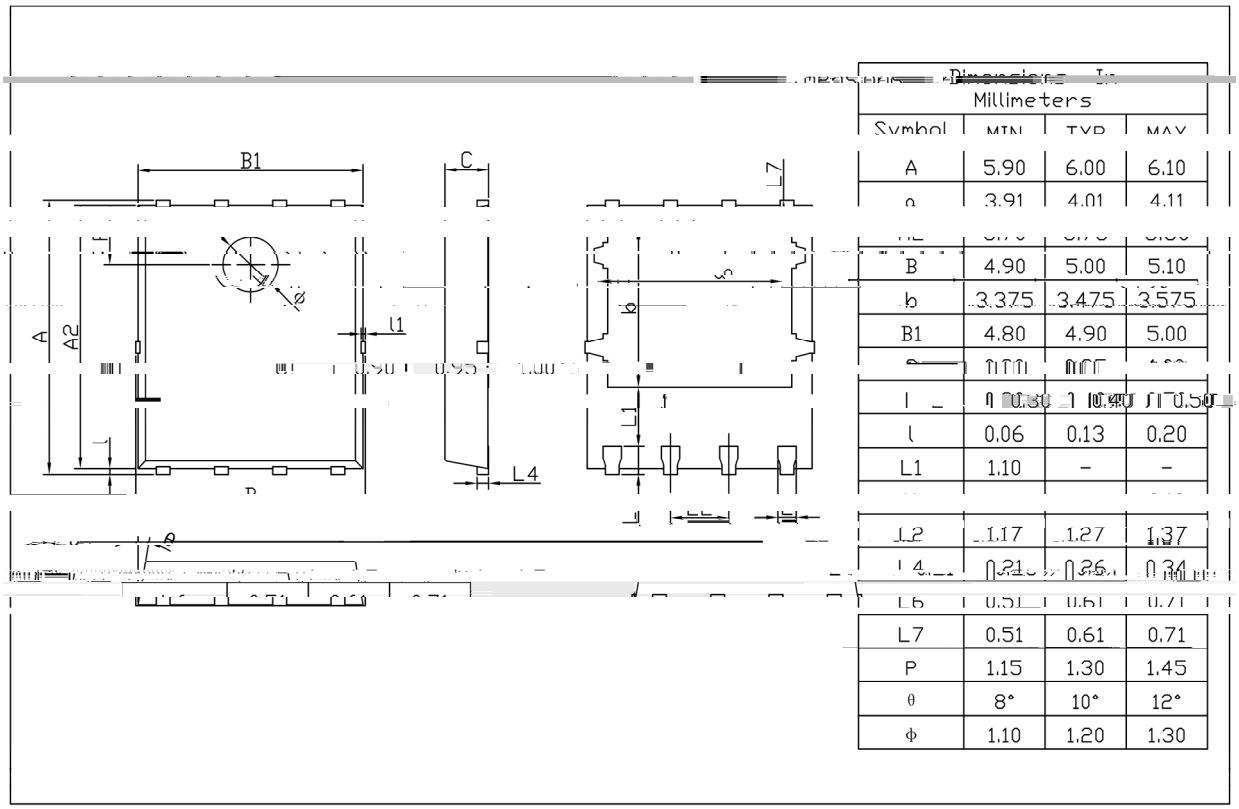

10
V_{DS}=30V
1200
1000
800
600
400
200
0
I_D=13A
V_{GS} (Volts)
4
2
0
40
50
60
0
5
10
15
20
25
30
0
10
20
30
V_{DS} (Volts)
Q_g (nC


1ms
10ms
0.1
0.01
0.1
1
10
100
1000
V_{DS} (Volts)


10

PDFN5×6

Unit:mm



Symbol	Millimeters MIN	TYP	MAX
A	5.90	6.00	6.10
B	4.90	5.00	5.10
b	3.375	3.475	3.575
B1	4.80	4.90	5.00
l	0.06	0.13	0.20
L1	1.10	–	–
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

Rev.01 202209



BR

120N06S

****

Note

BR	Company Code
120N06S	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;

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.

605±5 5