

/ Descriptions

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

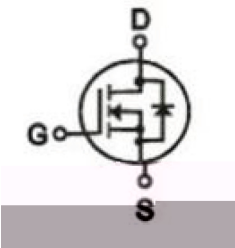
/ Features

$V_{DS} (V) = 60V$ $I_D = 111A (V_{GS} = \pm 20V)$
 $R_{DS(ON)}@10V \leq 3.6mR (Typ. 3.45mR)$
HF Product.

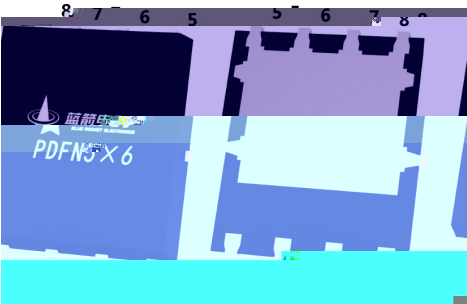
/ Applications

MB/NB/UMPC/VGA Buck -
Battery Management, High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA, Networking DC-DC Power System, Load Switch.

/ Equivalent Circuit



/ Pinning



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
7	D
8	D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Continuous Drain Current		I_D	111	A
Pulsed Drain Current		I_{DM}	227	A
Gate-Source Voltage		V_{GS}	20	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	78	W
Avalanche energy($L=0.5\text{mH}$)		E_{AS}	693	mJ
Avalanche Current($L=0.5\text{mH}$)		I_{AS}	43	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	
Maximum Junction-to-Ambient	t 10s	R_{JA}	17	/ W
	Steady-State		55	
Maximum Junction-to-Case	Steady-State	R_{JC}	1.6	

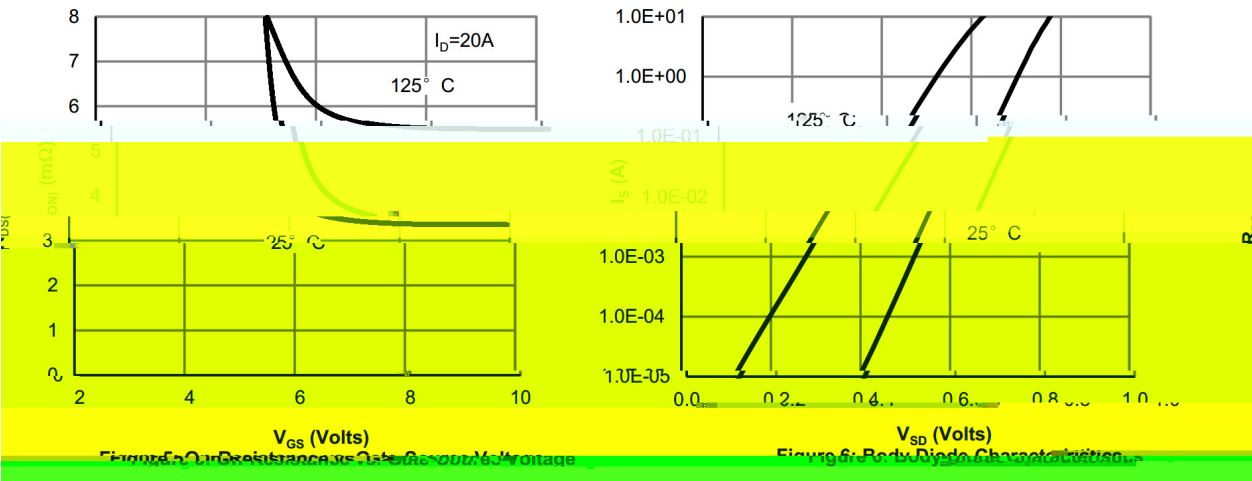
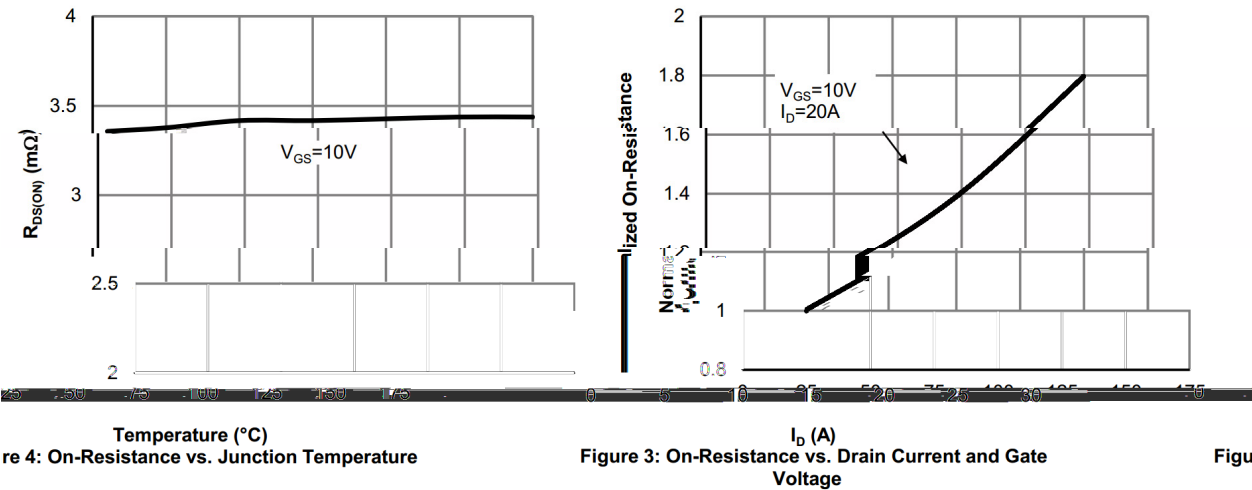
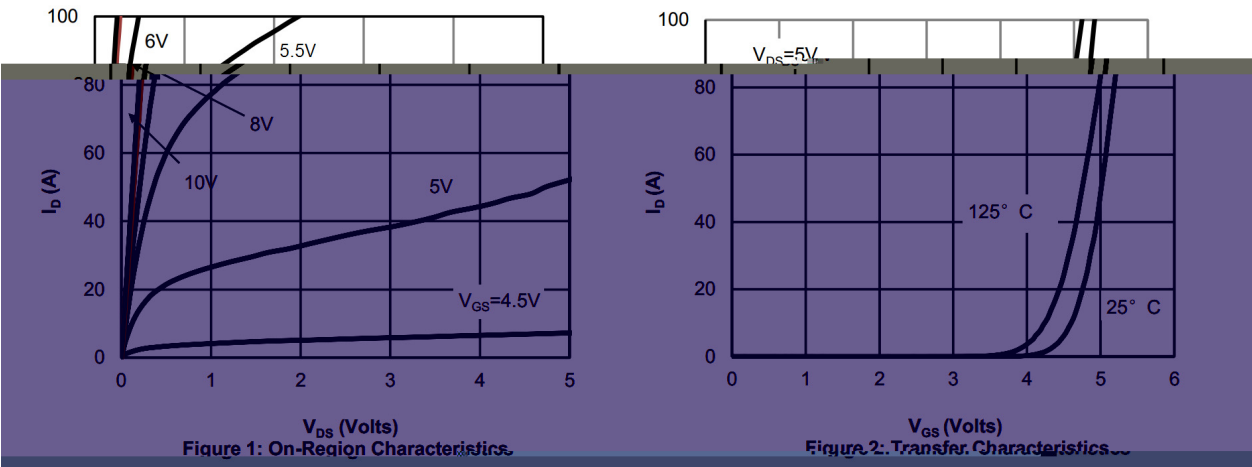
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	60	70		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$			1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	2.0	3.0	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		3.45	3.6	$\text{m}\Omega$
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		4400		pF
Output Capacitance	C_{oss}			1400		
Reverse Transfer Capacitance	C_{rss}			73		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}$ $f=1\text{MHz}$		1.1		Ω
Total Gate Charge	Q_g	$V_{GS}=10\text{V}, V_{DS}=30\text{V},$ $I_D=20\text{A}$		42		nC
Gate Source Charge	Q_{gs}			14		
Gate Drain Charge	Q_{gd}			11		

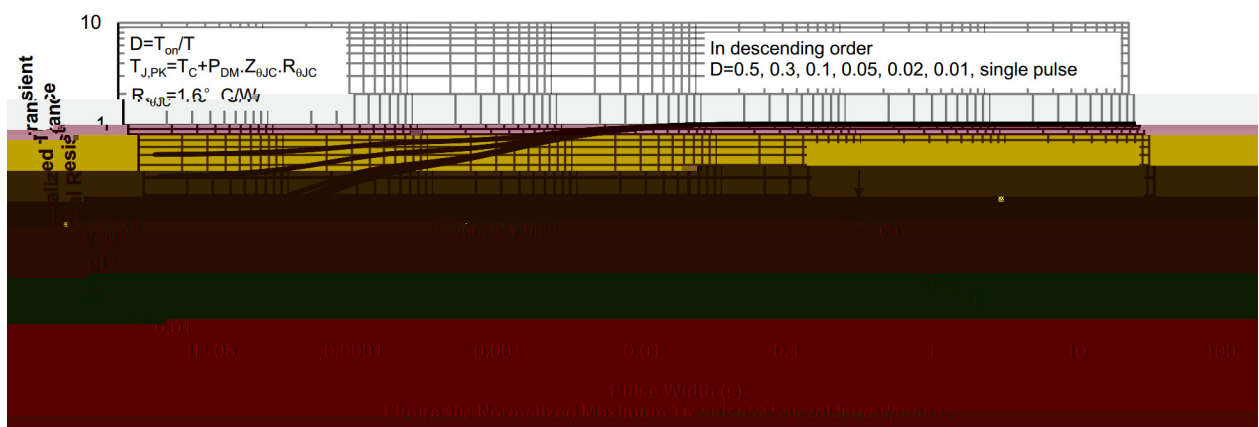
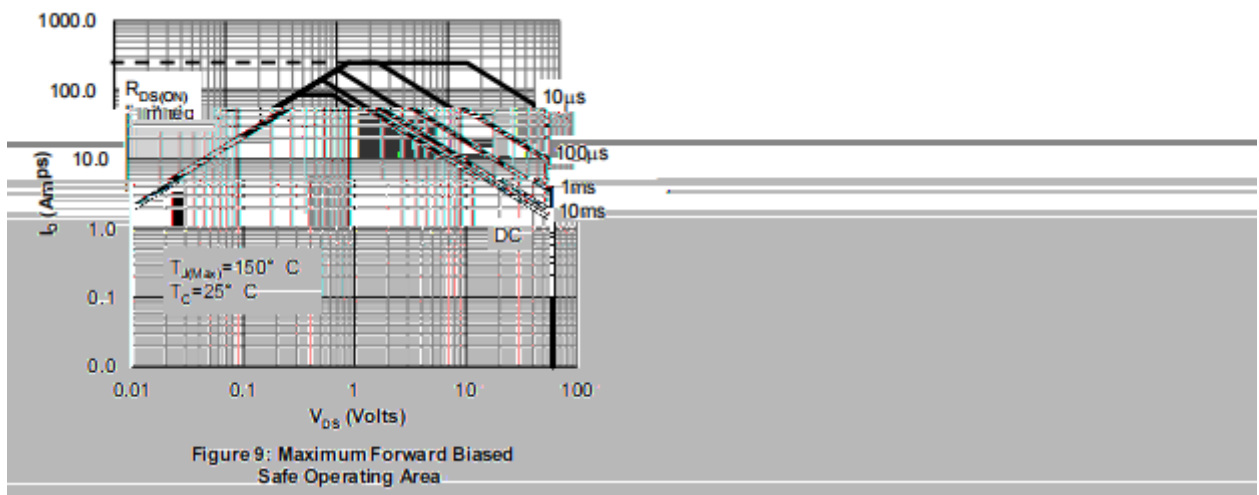
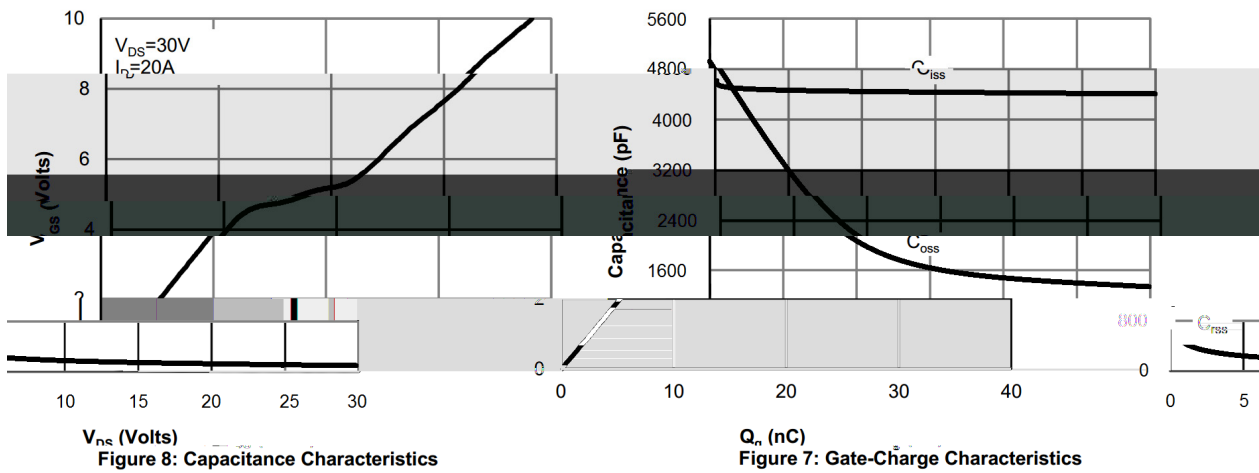
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	t _{d(on)}	V _{GS} =10V V _{DS} =30V R _L =1.5 R _{GEN} =3		13		ns
Turn-On Rise Time	t _r			4		
Turn-Off Delay Time	t _{d(off)}			47		
Turn-Off Fall Time	t _f			6.5		

/ Electrical Characteristic Curve

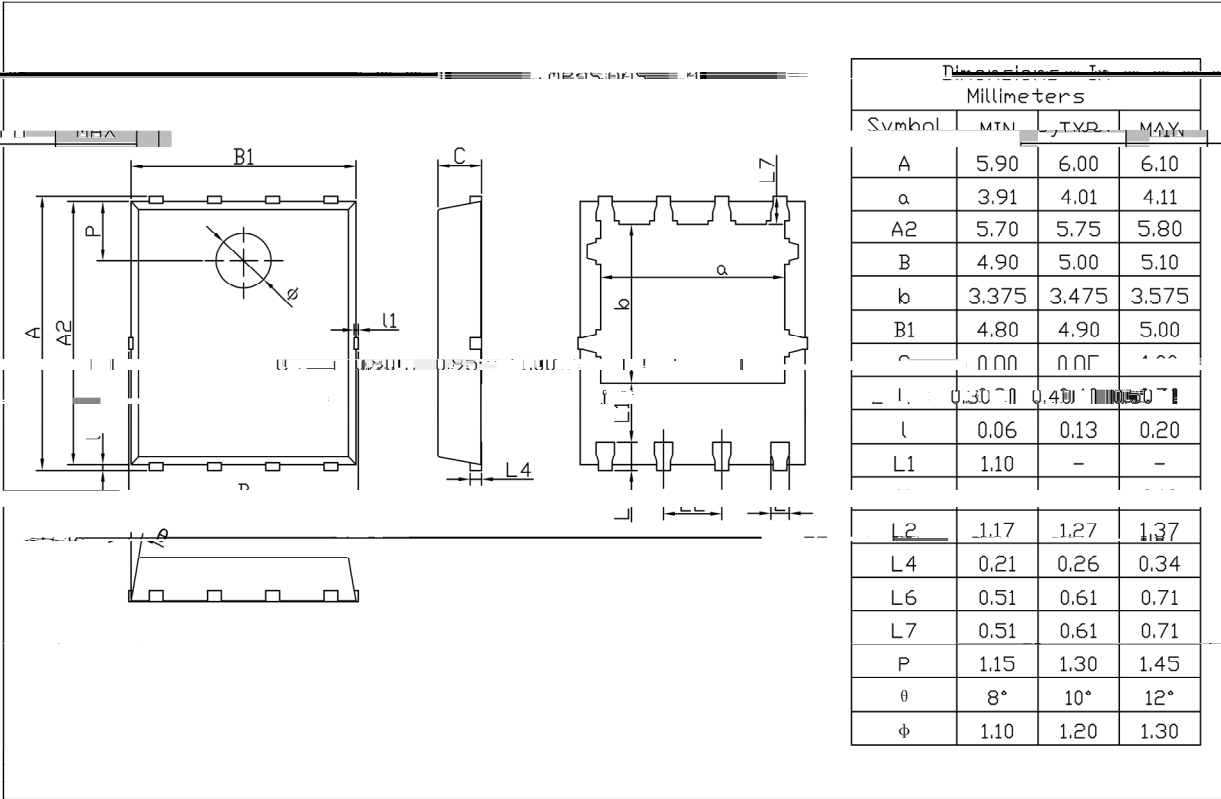


/ Electrical Characteristic Curve



I Package Dimensions

PDFN5 X6 Unit:mm



Rev.01 202209

/ Marking Instructions



BR

035N06SH

Note

BR

Company Code

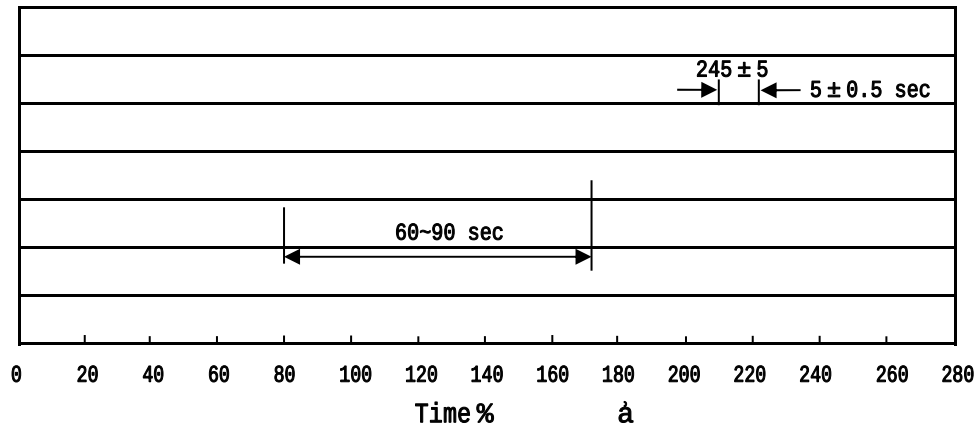
035N06SH

Product Type Code

****:

Lot No. Code, code change with Lot No

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



c ! 0 Time % á

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 mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
PDFN5×6	5,000	2	10,000	6	60,000	13"×12	360×360×50	380×335×366

/ Notices