

/ Descriptions

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

/ Features

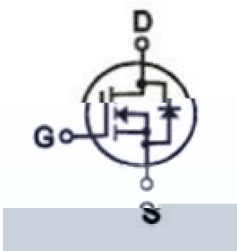
$V_{DS}=60V$ $I_D=67A$
 $R_{DS(on)}@10V\leq 7m\Omega$ (Type. 5.7m Ω)
 $R_{DS(on)}@6V\leq 12m\Omega$ (Type. 6.2m Ω)
HF Product.

/ Applications

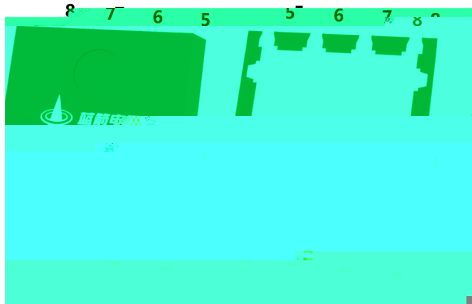
LED

This device is ideal for boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.

/ Equivalent Circuit



/ Pinning



Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	S
8	S

/ Marking

See Marking Instructions.

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	67	A
Pulsed Drain Current		I_{DM}	212	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy($L=0.5\text{mH}$)		E_{AS}	720	mJ
Avalanche Current		I_{AS}	41	A
Total Power Dissipation		$P_D(T_c=25^\circ\text{C})$	60	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	Steady-State	$R_{\theta JA}$	60	/W
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	2.08	

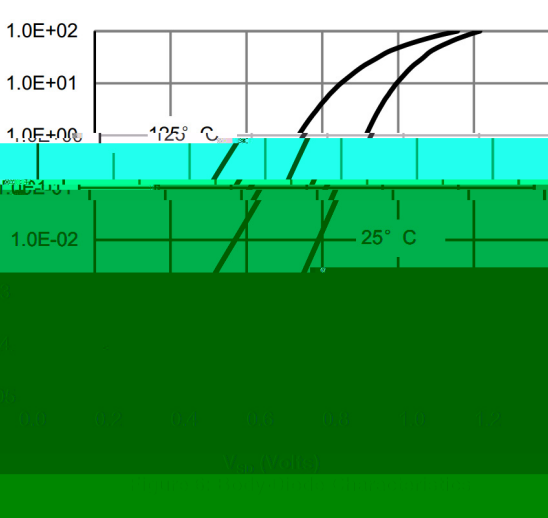
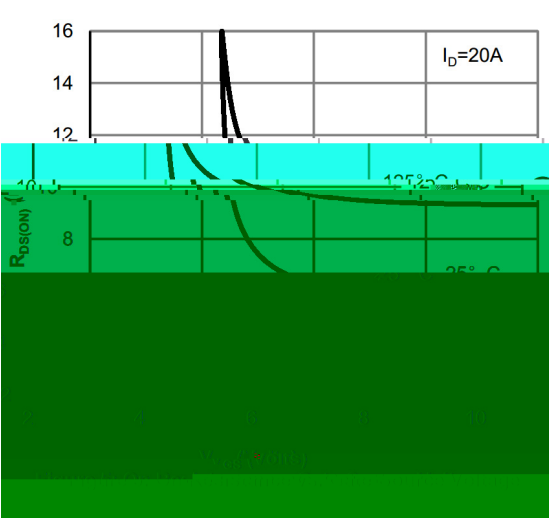
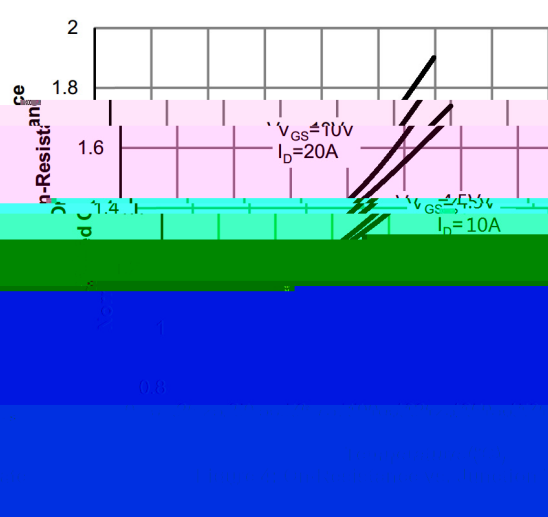
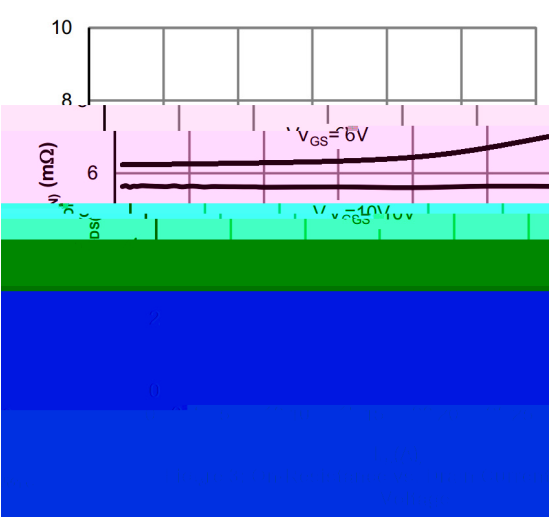
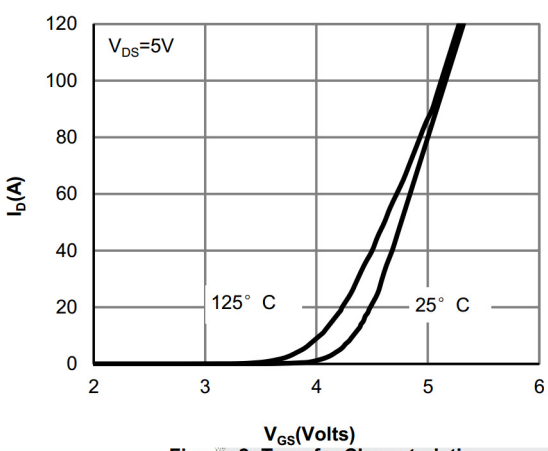
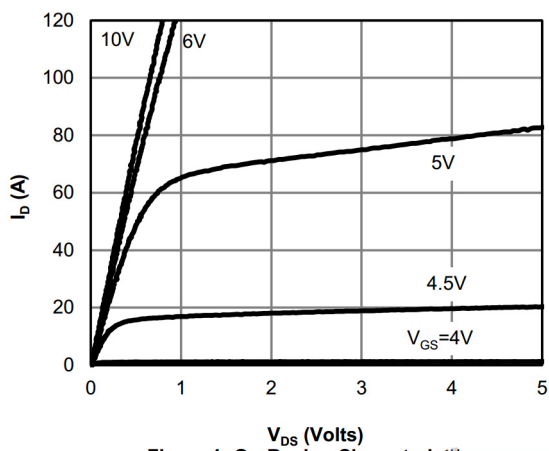
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	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	2.9	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		5.7	7	$\text{m}\Omega$
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=6\text{V}, I_D=10\text{A}$		6.2	12	$\text{m}\Omega$
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		5590		pF
Output Capacitance	C_{oss}			295		
Reverse Transfer Capacitance	C_{rss}			185		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		0.77		Ω
Total Gate Charge	Q_g	$V_{GS}=10\text{V}, V_{DS}=30\text{V}, I_D=20\text{A}$		53		nC
Gate Source Charge	Q_{gs}			17		
Gate Drain Charge	Q_{gd}			5		

/ 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 =1.5Ω R _{GEN} =3Ω		21		ns
Turn-On Rise Time	t _r			23		
Turn-Off Delay Time	t _{d(off)}			35		
Turn-Off Fall Time	t _f			4.2		

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

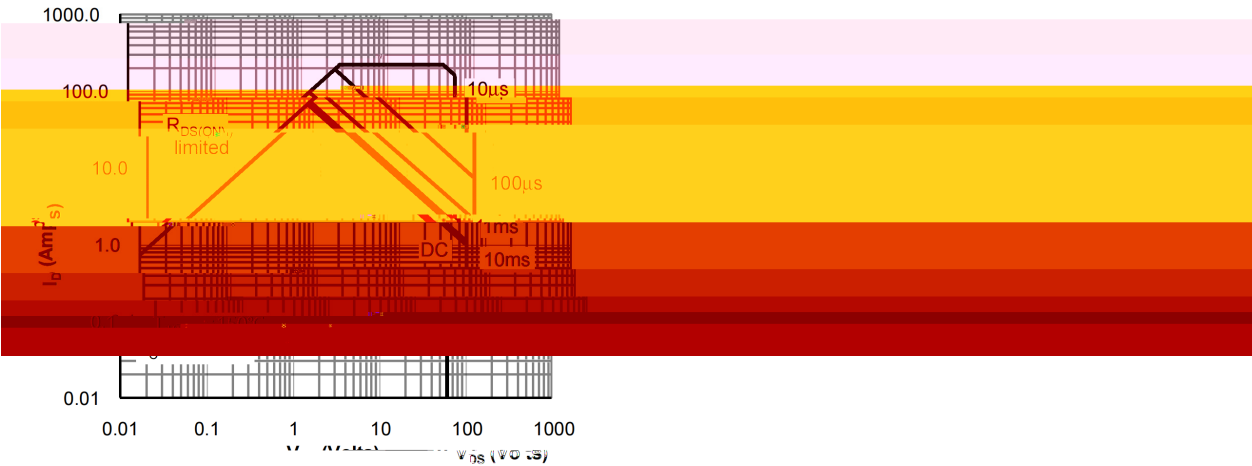
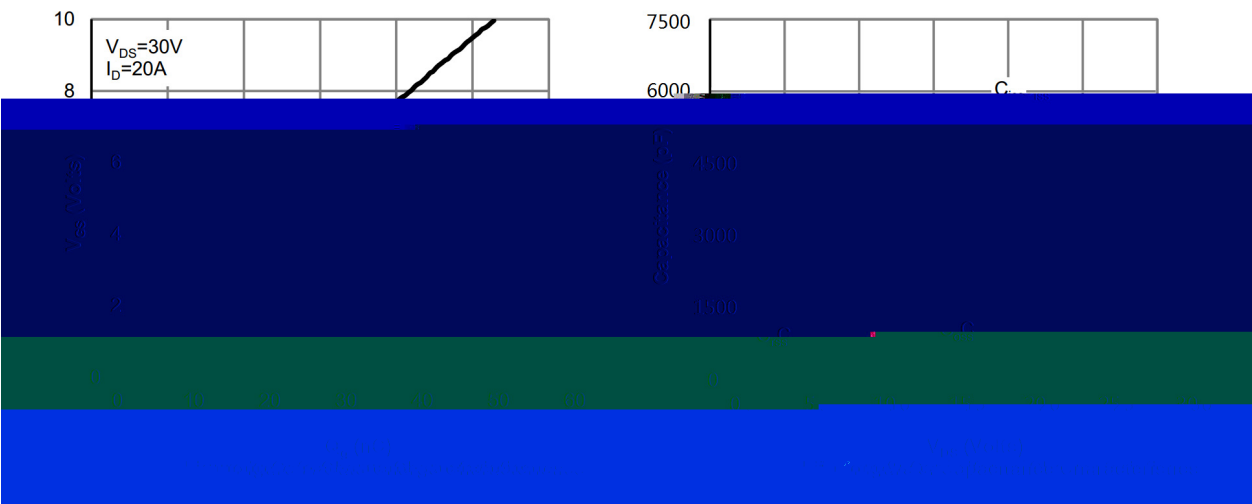
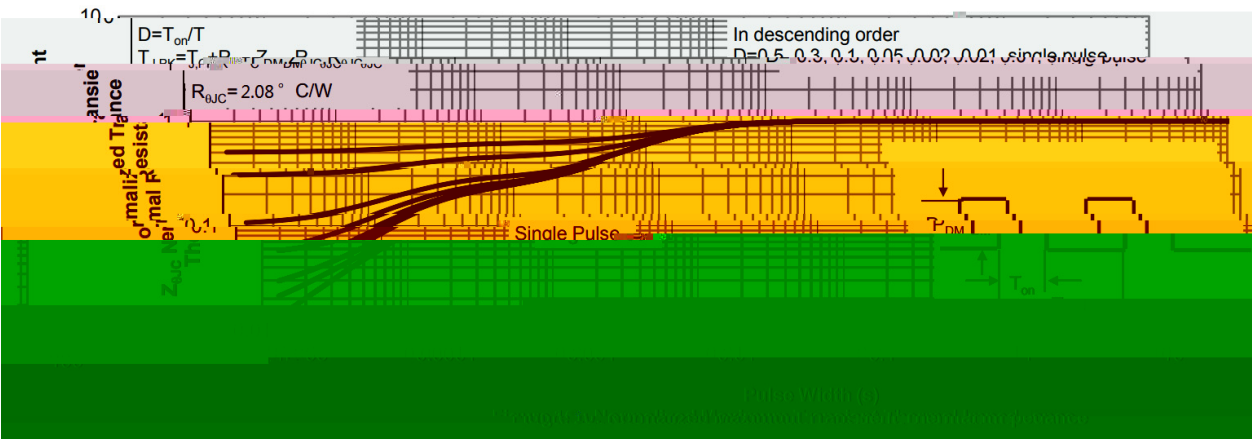
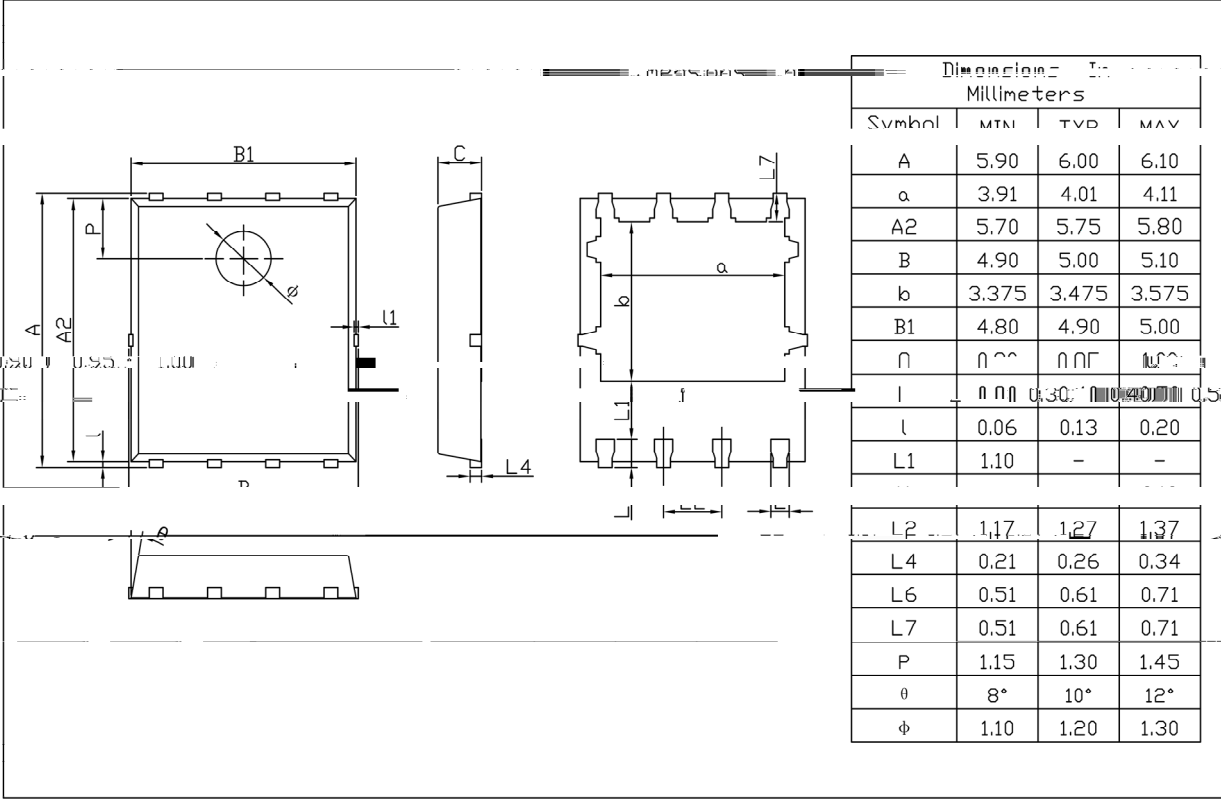


Figure 9: Maximum Forward Biased Safe Operating Area



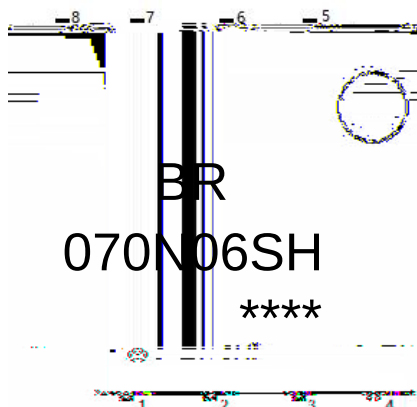
/ Package Dimensions

PDFN5 X6 Unit:mm



Rev.01 202209

/ Marking Instructions



BR

070N06SH

Note

BR Company Code

070N06SH 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 mm ³)
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box		
	/	/	/	/		