/ Descriptions

PDFN5×6 N

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

/ Features

V_{DS}=60V I_D=67A

$R_{DS(on)}$@10V≤7mΩ(Type. 5.7mΩ)

$R_{DS(on)}$@6V≤12mΩ(Type. 6.2mΩ)

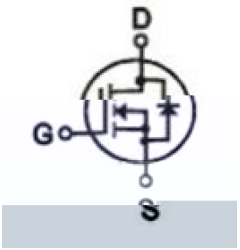
HF Product.

/ Applications

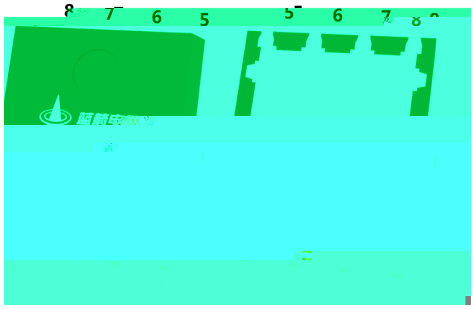
LED

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

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	60	V
Drain Current		I_D(Tc=25)	67	A
Pulsed Drain Current		I_{DM}	212	A
Gate-Source Voltage		V_{GS}	± 20	V
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	720	mJ
Avalanche Current		I_{AS}	41	A
Total Power Dissipation		P_D(Tc=25)	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	

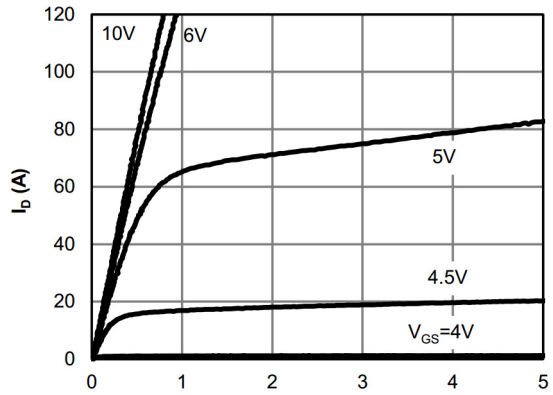
/ Electrical Characteristics(Ta=25)

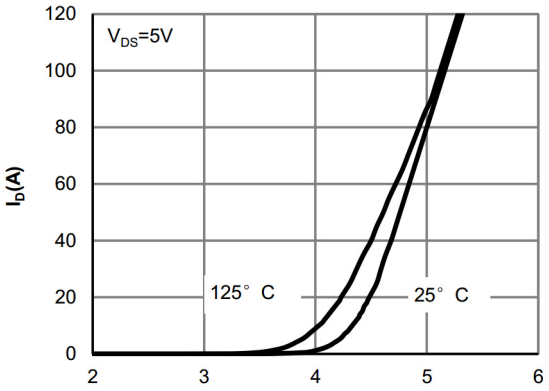
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	60	70		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V			1.0	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	2.0	2.9	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		5.7	7	mΩ
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=6V, I_D=10A		6.2	12	mΩ
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V			1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		5590		pF
Output Capacitance	C_{oss}			295		
Reverse Transfer Capacitance	C_{rss}			185		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		0.77		Ω
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=20A		53		nC
Gate Source Charge	Q_{gs}			17		
Gate Drain Charge	Q_{gd}			5		

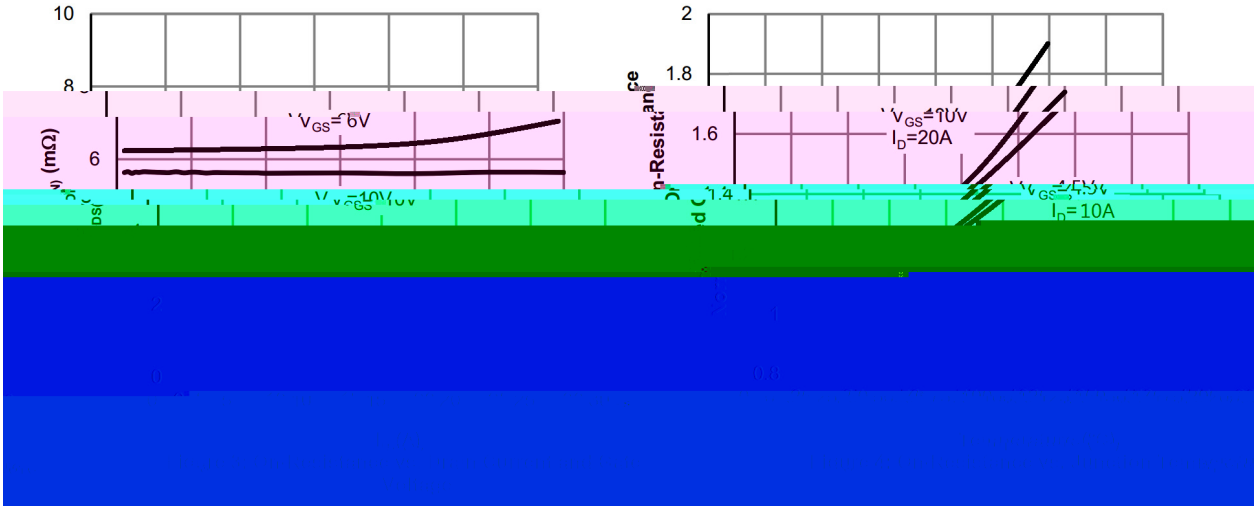
/ Electrical Characteristics(Ta=25)

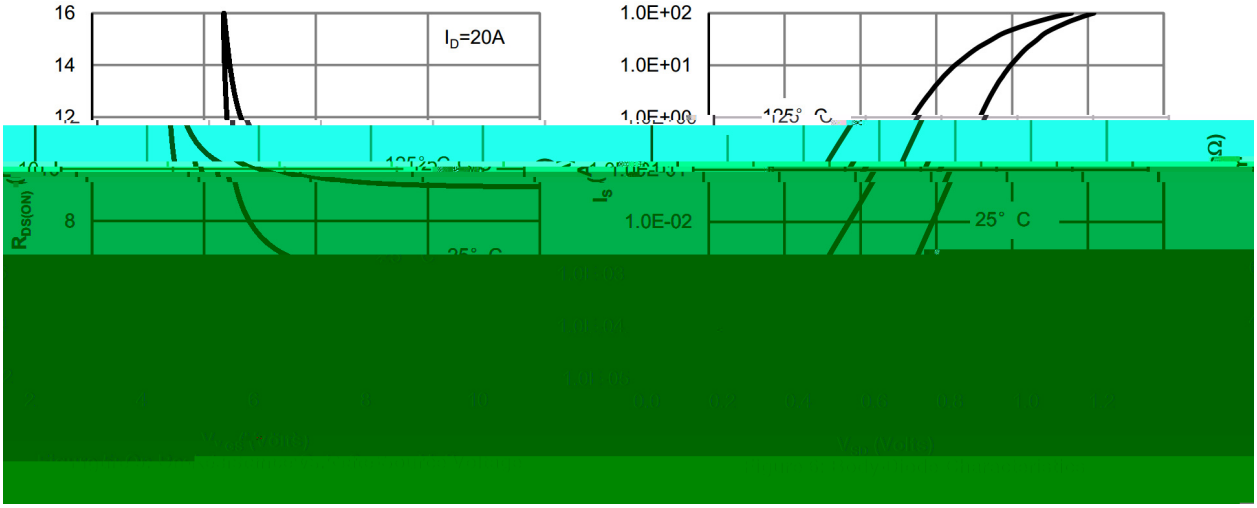
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=1.5Ω R_{GEN}=3Ω		21		ns
Turn-On Rise Time	t_r			23		
Turn-Off Delay Time	$t_{d(off)}$			35		
Turn-Off Fall Time	t_f			4.2		

/ Electrical Characteristic Curve

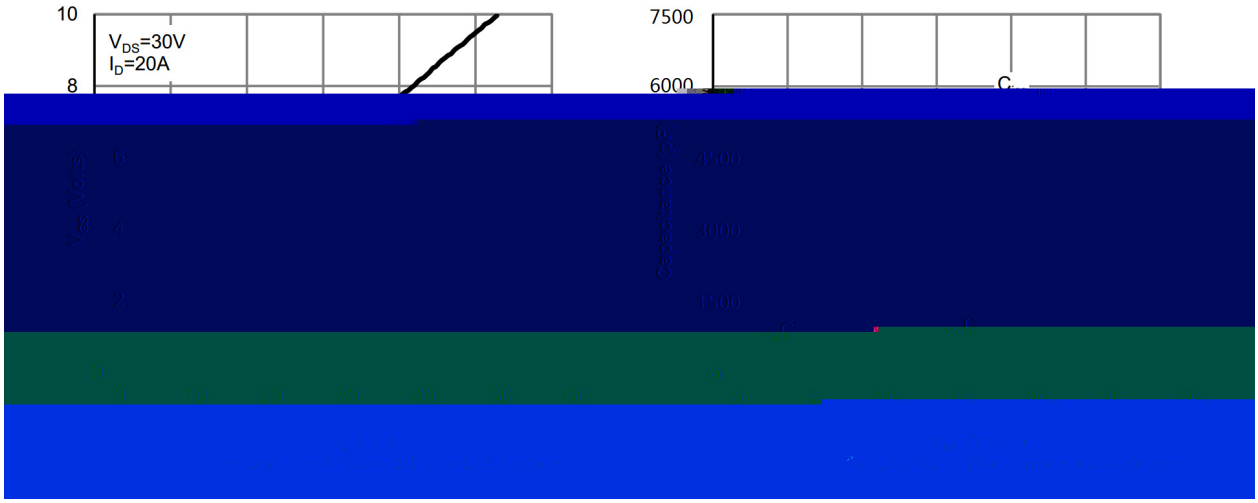








/ Electrical Characteristic Curve



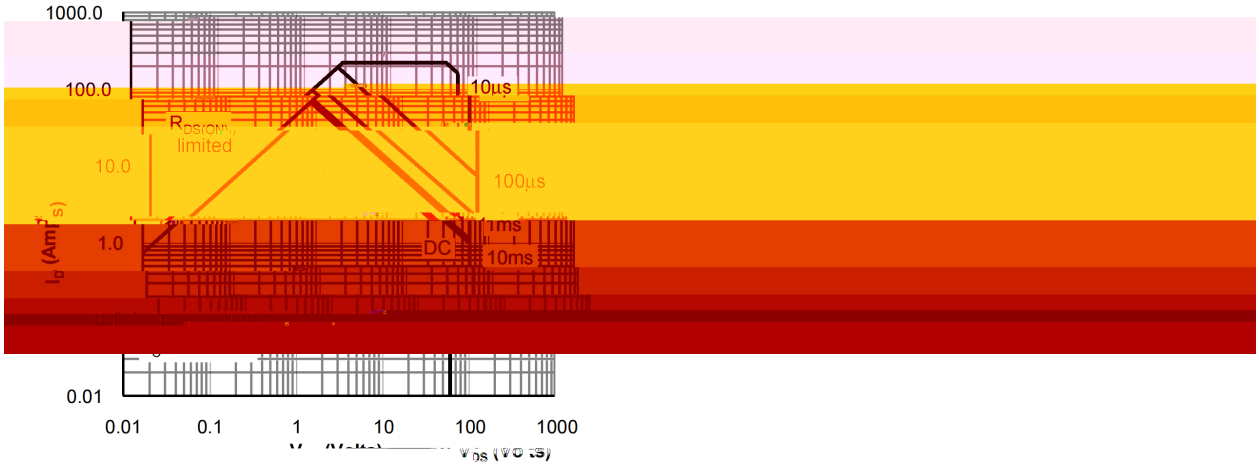
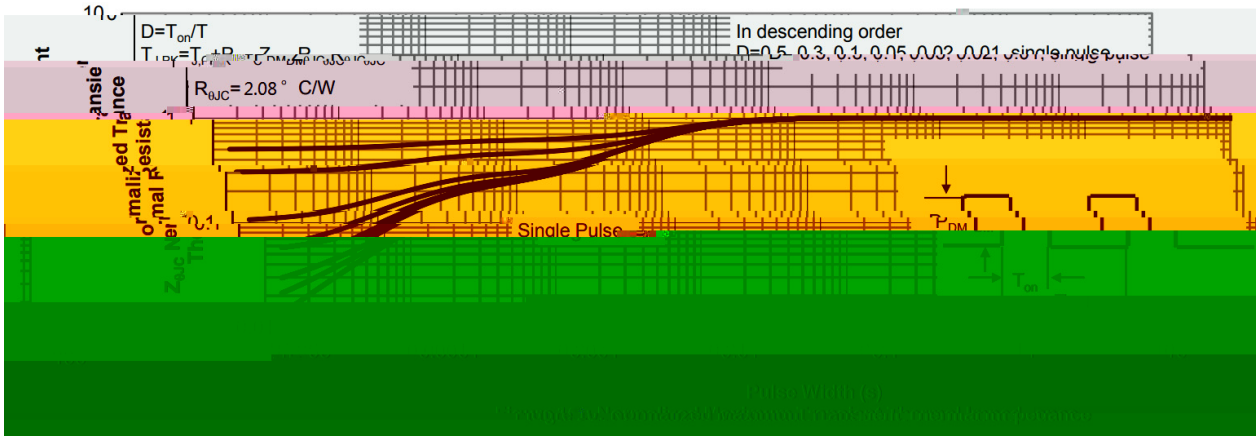
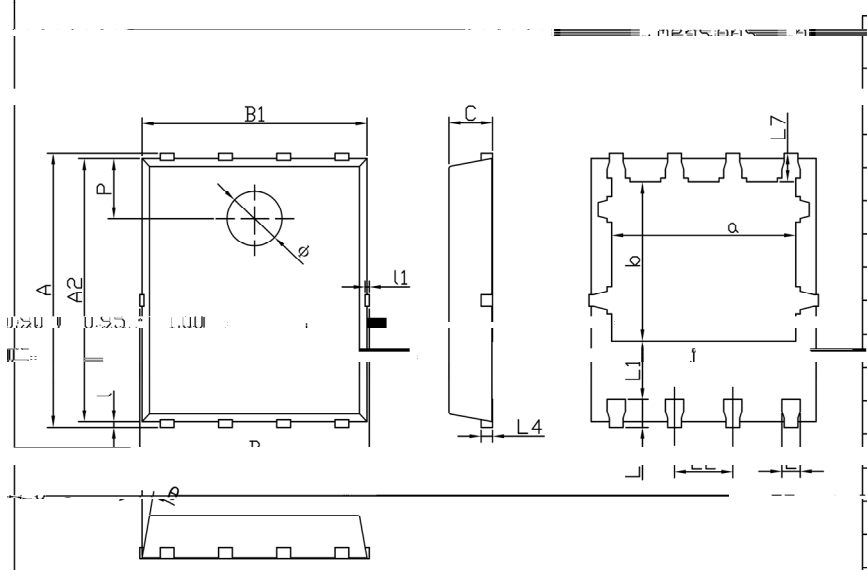


Figure 9: Maximum Forward Biased Safe Operating Area



/ Package Dimensions

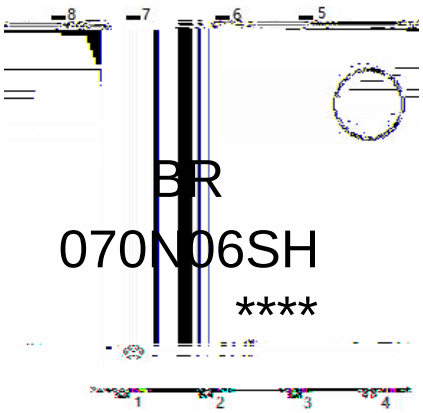
PDFN5×6 Unit:mm



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
C	0.20	0.25	0.30
e	0.30	0.40	0.50
L	0.06	0.13	0.20
L1	1.10	-	-
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

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 mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box	