5 é / Descriptions

PDFN5 ˜6 / x N ?ú 3 « | • ’ ož
N-Channel MOSFET in a PDFN5 h 6 Plastic Package.

¤ ª / Features

V_{DS} (V) = 60V I_D =123A (V_{GS} = ±20V)
$R_{DS(ON)}$@10V ”3.0m (Typ.2.7m)
$R_{DS(ON)}$@6V ”5.0m (Typ.3.3m)
—)í D } ÄHF Product.

Ð ÷ / Applications

P ’ ò k MB/NB/UMPC/VGA ä È ¿ ú µ c 5 Buck J E ˜ k û à + v - + v © Ï k ¿ > • ¼ož
Battery Management,High Frequency Point-of-Load Synchronous Buck Conventer for MB/NB/UMPC/VGA,Networking DC-DC Power System,Load Switch.

Ã W] Ô · / Equivalent Circuit

• Û - æ / Pinning

PIN1 Ã2 Ã3 Ö S PIN4 ÖG PIN5 Ã6 Ã7 Ã8 ÖD

, M V / Marking

• - ~ ª ¢ož
See Marking Instructions.

Ã a ? d / Absolute Maximum Ratings(T a=25 ;)

@ ƒ Parameter		… Z Symbol	ƒ › Rating	% y Unit
Drain-Source Voltage		V_{DS}	60	V
Continuous Drain Current		I_D	123	A
Pulsed Drain Current		I_{DM}	253	A
Gate-Source Voltage		V_{GS}	f 20	V
Power Dissipation		$P_D(T_c=25$)	83	W
Avalanche energy(L=0.5mH)		E_{AS}	1000	mJ
Avalanche Current(L=0.5mH)		I_{AS}	44.7	A
Junction and Storage Temperature Range		T_j, T_{stg}	-55 to 150	-
Maximum Junction-to-Ambient	t 0 10s	R ©JA	20	/ W
	Steady-State		50	
Maximum Junction-to-Case	Steady-State	R ©JC	1.5	

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	I_D=250uA, V_{GS}=0V	60	77		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	1	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A		2.7	3	m S
		V_{GS}=6.0V, I_D=10A		3.3	5	
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		6200		pF
Output Capacitance	C_{oss}			1700		
Reverse Transfer Capacitance	C_{rss}			180		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		1.7		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=20A		43		nC
Gate Source Charge	Q_{gs}			15		
Gate Drain Charge	Q_{gd}			12.3		

Ô4ì × ? d / Electrical Characteristics(Ta=25 ;)

@ *f* Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=30V R_L=1.5 ¡ R_{GEN}=3 ¡		15		ns
Turn-On Rise Time	t_r			4.3		
Turn-Off Delay Time	$t_{d(off)}$			52		
Turn-Off Fall Time	t_f			7.2		

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ø ¤ =) ¢ / Package Dimensions

, M y ƒ / Marking Instructions

BR
030N06SH
****

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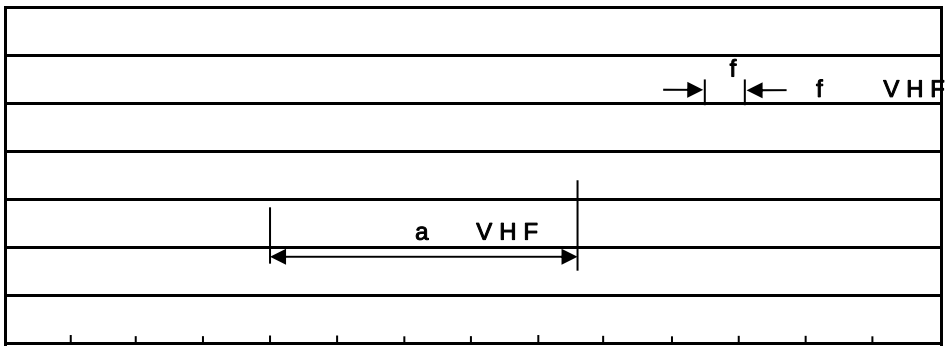
(8 y ¸ [W A
030N06SH y º Z W A
y ÿ D Z W A k š ÿ D Z J

Note y

BR y	Company Code
030N06SH y	Product Type Code
****:	Lot No. Code, code change with Lot No

š WD t … • Ž ¢ (x /) / : K S V K X G Z [X K 6 X U L O R K L U X / 8 8 K L R U] 9 U R J K X O T M 6



ª ¢ y

1o• Ä ½ “ † 150 ½180 - k ž • 60 ½90sec;

2o• Q › “ † 245 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 , † 2 ½10 - /sec.

Note:

1.Preheating:150~180 - , Time:60~90sec.

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 - ž • y 10 r1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

Package Type / x ¥ ”	Units ;>û ¦H					Dimension ;>û p . (unit Æmm³)		
	Units/Reel Q 2 &	Reels/Inner Box 2 & "	Units/Inner Box Q "	Inner Boxes/Outer Box " ”	Units/Outer Box Q ”	Reel	Inner Box"	Outer Box"
PDFN5×6	5,000	2	10,000	6	60,000	13”×12	360×360×50	380×335×366

„ Ð y ƒ / Notices