

5 é / Descriptions

PDFN5 ~6 / x N ?ú 3 « | • ' ož

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

□ ª / Features

 $V_{DS} (V) = 60V$ $I_D = 123A (V_{GS} = \pm 20V)$ $R_{DS(ON)}@10V$ "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 ç ú µ c 5 Buck J E ~ k û à + v - + v © Ĩ k ç > • ¼ ož

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

Ã W] Ô · / Equivalent Circuit

• Ô - æ / Pinning

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

, M V / Marking

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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	123	A
Pulsed Drain Current	I_{DM}	253	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	83	W
Avalanche energy($L=0.5\text{mH}$)	E_{AS}	1000	mJ
Avalanche Current($L=0.5\text{mH}$)	I_{AS}	44.7	A
Junction and Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	20
	Steady-State		50
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	1.5

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	77		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	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$		2.7	3	m Ω
		$V_{GS}=6.0\text{V}, I_D=10\text{A}$		3.3	5	
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}, V_{GS}=0\text{V}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		6200		pF
Output Capacitance	C_{oss}			1700		
Reverse Transfer Capacitance	C_{rss}			180		
Gate resistance	R_g	$V_{GS}=0\text{V}, V_{DS}=0\text{V}$ $f=1\text{MHz}$		1.7		
Total Gate Charge	Q_g	$V_{GS}=10\text{V}, V_{DS}=30\text{V},$ $I_D=20\text{A}$		43		nC
Gate Source Charge	Q_{gs}			15		
Gate Drain Charge	Q_{gd}			12.3		

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		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

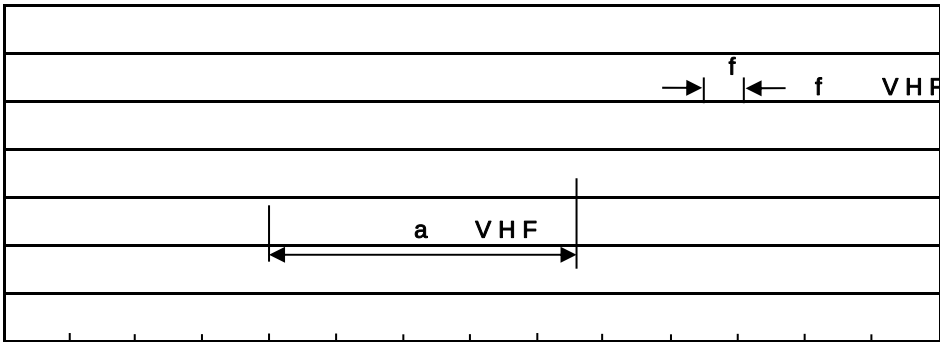
Ø □ =) ¢ / Package Dimensions

, M y f / Marking Instructions

BR
030N06SH

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030N06SH y ° Z W A
y ħ D Z W A k š ħ D Z J
Note y
BR y Company Code
030N06SH y Product Type Code
****: Lot No. Code, code change with Lot No

šWD t...•Ž¢ (x/) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6



- ^a¢y

10•Ä½“† 150½180 - kž• 60½90sec;
 20•Q>“† 245 r5 - kž•4 Ò 5 r0.5sec;
 30•D N ò i Ò 0 ,† 2½10 - /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 /mm³)		
	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

„Đ y f / Notices