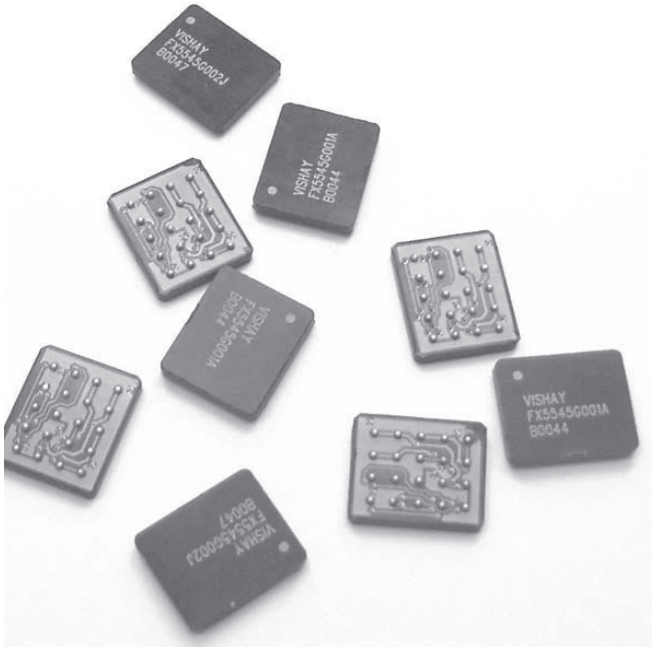


## Industry Smallest and Low Profile 6.5W 2.0A DC/DC Buck Converter with High Output Density Power



### FEATURES

- Fully integrated DC/DC converter
- High efficiency over large load range
- 100% duty cycle
- Power density - more than 240W/inch<sup>3</sup>
- 1uA shutdown current
- 2.7V to 6V input range (1Li+ and 3-cell NiCd or NiMH cells)
- 1.8V to 3.3V output voltage
- Programmable PWM/P<sub>SM</sub> controls
- Low output ripple
- BGA/LGA construction
- Temperature range: - 40°C to + 85°C
- No external components needed
- Output power 6.5W
- Maximum current 2.0A
- Low profile

The DC/DC converter is a programmable topology synchronized Buck converter for today's continuous changing portable electronic market. The DC/DC converter provides flexibility of utilizing various battery configurations and chemistries such as NiCd, NiMH, or Li+ with an input voltage range of 2.7V to 6V. An additional flexibility is provided with topology programmability to power multiple loads such as power amplifiers, microcontrollers, or baseband logic IC's. For ultra-high efficiency, converters are designed to operate in synchronous rectified PWM mode under full load while transforming into externally controlled pulse-skipping mode (PSM) under light load.

The DC/DC converter is available in 20-ports BGA package. In order to satisfy the stringent ambient temperature

requirements, the DC/DC converter is designed to handle the industrial temperature range of - 40°C to + 85°C.

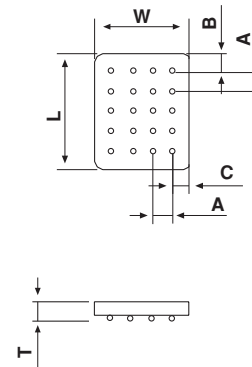
### APPLICATION

- Cordless phones, PDAs and others
- Supply voltage source for low-voltage chip sets
- Portable computers
- Battery back-up supplies
- Cameras
- Routers
- Fiber optics
- LANS
- Image processing

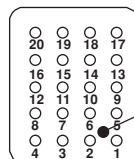
### ORDERING INFORMATION

	<b>FX</b>	<b>5545</b>	<b>G105</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FUNCTION								
SIZE								
CIRCUIT IDENTIFIER								
OUTPUT VOLTAGE-Example: 2.7V should be written as 2V7 as the V indicates the decimal point, or ADJ for adjustable version - self selectable output voltage.								
PACKAGING-B1 = 10pcs in bulk; B5 = 50pcs in bulk; T1 = 13" reel; T2 = 7" reel.								

DIMENSIONS in inches [millimeters]	
L	0.58 ± 0.01 [14.7 ± 0.25]
W	0.48 ± 0.01 [12.2 ± 0.25]
A	0.1 ± 0.01 [2.54 ± 0.25]
B	0.09 ± 0.01 [2.29 ± 0.25]
C	0.09 ± 0.01 [2.27 ± 0.25]
T	0.12 max [3 max]



BOTTOM SIDE



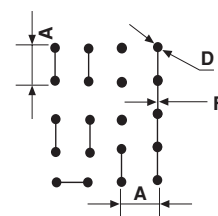
Marked on Upper Side

\*Note: Pin Description application note is available on page 32.

\*\*Note: if not used must be connected to Vin.

PIN CONFIGURATION*	
PIN	CONNECTION
1, 2	$\overline{SD}$
3, 7	SYNC**
4, 8	N/C
5, 9	Vin
6, 10	PWM/ $\overline{PSM}$
11, 12	N/C
13, 17	GND
14, 18	Vout
15, 19	N/C
16, 20	GND

RECOMMENDED PAD PATTERN in inches [millimeters]		
A	D	F
0.1 ± 0.01 [2.54 ± 0.25]	0.03 ± 0.001 [0.8 ± 0.02]	0.02 ± 0.001 [0.5 ± 0.02]



## TAPE AND REEL

See Tape and Reel Information - Type B

STANDARD ELECTRICAL SPECIFICATIONS					
PARAMETER	UNIT	CONDITION	MIN	TYP	MAX
<b>Input</b> Voltage Range	$V_{DC}$		2.7		6
<b>Insulation</b> Test Voltage Resistance Leakage Current	$V_{AC}$ $\Omega$ nA	60Hz 60sec $V_{ISO} = 500V_{DC}$ $V_{ISO} = 500V_{DC}$	750 $1 \times 10^{11}$		5
<b>Output</b> Power Voltage Voltage Tolerance Temp. Coefficient Ripple and Noise	W $V_{DC}$ % %/°C mVpp	at 25°C Ambient Temperature  DC to 20MHz	- 5	6.5 1.8 to 3.3	+ 5 0.03
<b>General</b> Package Weight	gr.				1.5
<b>Temperature</b> Operation Storage	°C °C		- 40 - 55		+ 85 + 125

