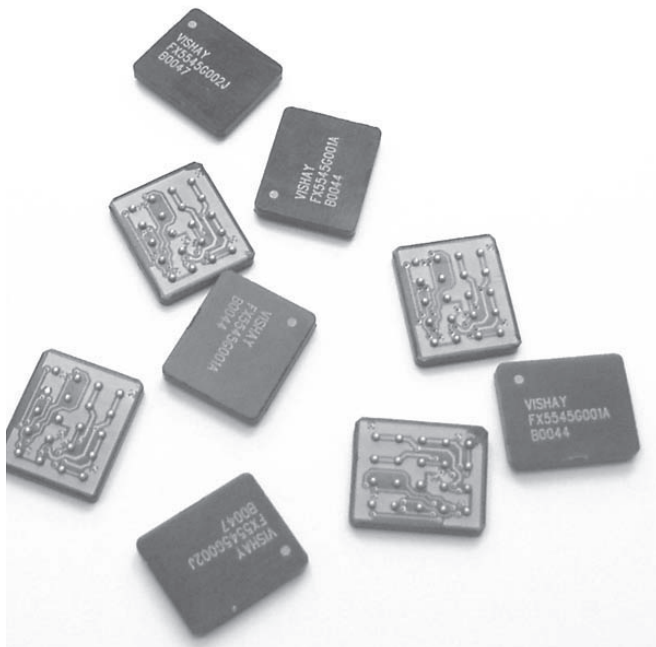


Industry Smallest and Low Profile 8W 2.5A DC/DC Buck Converter with High Output Density Power



FEATURES

- Fully integrated DC/DC converter
- High efficiency over large load range
- 100% duty cycle
- Power density - more than 300W/inch³
- 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/ $\overline{\text{PSM}}$ controls
- Low output ripple
- BGA/LGA construction
- Temperature range: - 40°C to + 85°C
- No external components needed
- Output power 8W
- Maximum current 2.5A
- 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.

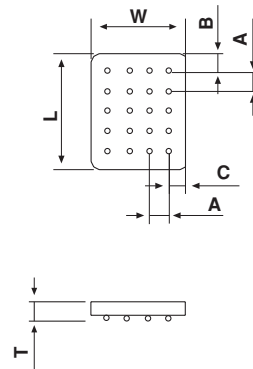
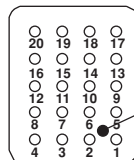
APPLICATION

- 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

	FX	5545	G205	☐	☐	☐	☐	☐
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 $\pm$ 0.25]
W	0.48 ± 0.01 [12.2 $\pm$ 0.25]
A	0.1 ± 0.01 [2.54 $\pm$ 0.25]
B	0.09 ± 0.01 [2.29 $\pm$ 0.25]
C	0.09 ± 0.01 [2.27 $\pm$ 0.25]
T	0.12 max [3 max]


BOTTOM SIDE


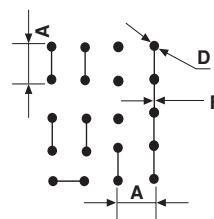
Marked on Upper Side

***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/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 $\pm$ 0.25]	0.03 ± 0.001 [0.8 $\pm$ 0.02]	0.02 ± 0.001 [0.5 $\pm$ 0.02]

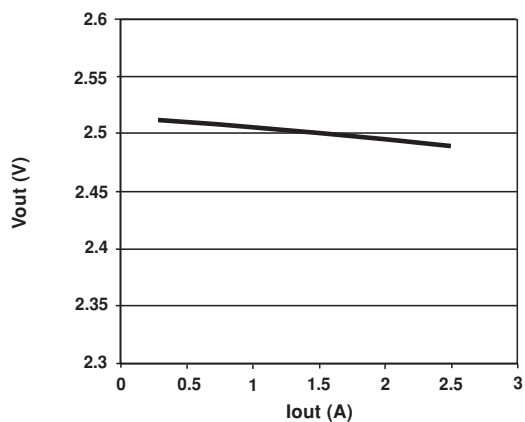

TAPE AND REEL

See Tape and Reel Information - Type B

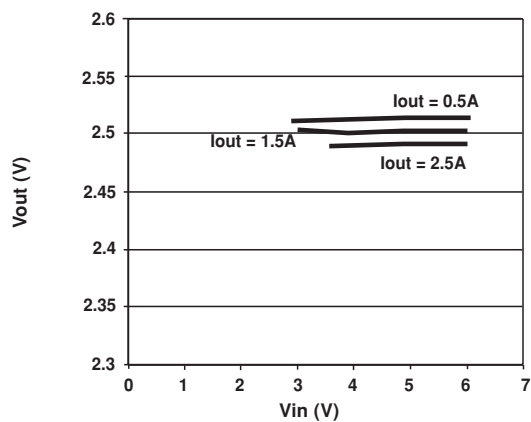
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	UNIT	CONDITION	MIN	TYP	MAX
Input Voltage Range	V_{DC}		2.7		6
Insulation Test Voltage Resistance Leakage Current	V_{AC} Ω nA	60Hz 60sec $V_{ISO} = 500V_{DC}$ $V_{ISO} = 500V_{DC}$	750 1×10^{11}		5
Output Power Voltage Voltage Tolerance Temp. Coefficient Ripple and Noise	W V_{DC} % %/°C mVpp mVpp	at 25°C Ambient Temperature DC to 20MHz With 10 μ F output capacitor	- 5	8 1.8 to 3.3 130 90	+ 5 0.03
General Package Weight	gr.				1.5
Temperature Operation Storage	°C °C		- 40 - 55		+ 85 + 125

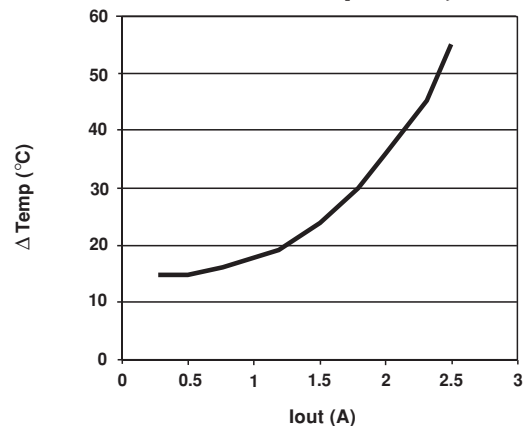
Vout Vs. Iout
For $V_{in} = 3.6V$; $V_{out} = 2.5V$



Vout Vs. Vin



Δ Temp. Vs. Iout
Above 25°C Ambient Temperature; For $V_{in} = 6V$



Efficiency Vs. Iout
For $V_{in} = 3.6V$; $V_{out} = 2.5V$

