



FEATURES

- ◆ RoHS compliant
- ◆ Efficiency up to 80%
- ◆ SIP Package
- ◆ Wide temperature performance at full 2 Watt load, -40°C to 85 °C
- ◆ UL 94V-0 package material
- ◆ No heatsink required
- ◆ LOW Isolation Capacitance
- ◆ Industry standard pinout
- ◆ Power sharing on output
- ◆ 6KVDC isolation
- ◆ Continuous Short Circuit Protection
- ◆ Internal SMD construction
- ◆ No external components required
- ◆ Good dynamic feature

MODEL SELECTION

H^① 05^② 05^③ X^④ S^⑤

- ①
- ②
- ③
- ④
- ⑤

APPLICATIONS

The 2H_XS&2G_XS series are specially designed for applications where a group of polar power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

- 1) where the voltage of the input power supply is fixed (voltage variation $\pm 10\%$);
- 2) where isolation is necessary between input and output (isolation voltage 6000VDC);
- 3) where the regulation of the output voltage and the output ripple noise are not demanded.

Such as: purely digital circuits, ordinary low frequency analog circuits, and 1GBT power device driving circuits.



CE REACH

SELECTION GUIDE

Order code	Input Voltage(VDC)		Output Voltage (VDC)	Output Current		Efficiency (% Typ)	Switching Frequency (KHz Typ)
	Nominal	Range					
	2G0505XS	5	4.5-5.5	± 5	± 200	± 20	74
2G0509XS	5	4.5-5.5	± 9	± 111	± 12	77	81
2G0512XS	5	4.5-5.5	± 12	± 83	± 9	77	82
2G0515XS	5	4.5-5.5	± 15	± 67	± 7	77	83
2H0505XS	5	4.5-5.5	5	400	40	74	180
2H0509XS	5	4.5-5.5	9	222	23	77	150
2H0512XS	5	4.5-5.5	12	167	17	77	84
2H0515XS	5	4.5-5.5	15	133	14	77	83
2G1205XS	12	10.8-13.	± 5	± 200	± 20	75	82
2G1209XS	12	10.8-13.	± 9	± 111	± 12	78	83
2G1212XS	12	10.8-13.	± 12	± 83	± 9	80	180
2G1215XS	12	10.8-13.	± 15	± 67	± 7	78	150
2H1205XS	12	10.8-13.	5	400	40	75	80
2H1209XS	12	10.8-13.	9	222	23	78	85
2H1212XS	12	10.8-13.	12	167	17	80	87
2H1215XS	12	10.8-13.	15	133	14	78	84
2G2405XS	24	21.6-26.	± 5	± 200	± 20	75	180
2G2409XS	24	21.6-26.	± 9	± 111	± 12	77	150
2G2412XS	24	21.6-26.	± 12	± 83	± 9	80	82
2G2415XS	24	21.6-26.	± 15	± 67	± 7	79	80
2H2405XS	24	21.6-26.	5	400	40	75	78
2H2409XS	24	21.6-26.	9	222	23	77	80
2H2412XS	24	21.6-26.	12	167	17	80	180
2H2415XS	24	21.6-26.	15	133	14	74	150

ISOLATION SPECIFICATIONS

Parameter	Test conditions	Min.	Typ.	Max	Unit
Isolation test voltage	Flash tested for 1 minute and 1mA	6000			VDC

OUTPUT SPECIFICATIONS

Parameter	Test conditions	Min	Typ.	Max	Unit
Output power		0.2		2	W
Line regulation	For Vin change of $\pm 1\%$			± 1.2	%
Load regulation	10% to 100% full load(5V output)		10	15	
	10% to 100% full load(9V output)		8.3	15	
	10% to 100% full load(12V output)		6.8	15	
	10% to 100% full load(15V output)		6.3	15	
Output voltage accuracy		See tolerance envelope graph			
Temperature drift	100% full load		± 0.03		%/°C
Output Ripple&Noise	20MHz Bandwidth		150	250	MV p-p
Switching frequency	Full load, nominal input	(5V input)	45		KHz
		(12V/24v input)	50		

* Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

Note: Dual output models unbalanced load: $\pm 5\%$.

COMMON SPECIFICATIONS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Storage humidity range				95	%
Operating temperature		-40		85	°C
Storage temperature		-55		125	
Lead temperature	1.5mm from case for 10 seconds			300	
Temp.rise at full load			15	30	
Cooling		Free air convection			
Case material		Plastic(UL94-V0)			
Short circuit protection*		Continuous			
				1	s
MTBF		3500			K hours
Weight			4.3		g

TYPICAL CHARACTERISTICS

Temperature Derating Graph

Tolerance Envelope Graph

OUTLINE DIMENSIONS & PIN CONNECTIONS

SIZE Graph

Note:
Unit:mm(inch)
Pin section:0.50*0.3mm(0.020*0.012inch)
Pin section tolerances: 0.10mm(0.004inch)
General tolerances: ±0.25mm(±0.010inch)

RECOMMENDED FOOTPRINT

Top view,grid:2.54mm(0.1inch)
diameter:1.00mm(0.039inch)

FOOTPRINT DETAILS		
Pin	Single	Dual
1	VIN	VIN
2	GND	GND
5	0V	-V0
6	No Pin	0V
7	+V0	+V0

Requirement on output load

To ensure this module can operate efficiently and reliably, a minimum load is specified for this kind of DC/DC converter in addition to a maximum load(namely full load).During operation, make sure the specified range of input voltage is not exceeded,the minimum output load is not less than 10% of the full load, and that this product should never be operated under no load!