



**THE DATASHEET OF
LM4565F-GE2**



1W Convection cooled

DC-DC converters

The IE series is housed in a SIP4 or DIP8 plastic case for PCB mounting. Featuring a $\pm 10\%$ input voltage range for 3.3, 5, 12, 15 & 24VDC nominal inputs, offering single outputs of 3.3, 5, 9, 12, 15 & 24VDC.

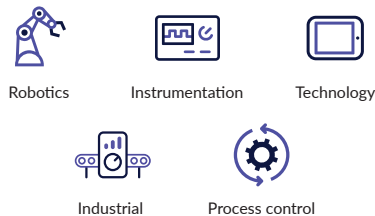
The 1W IE provides 1kVDC isolation between input and output as standard, with 3kVDC isolation available as an option.



Features

- ▶ Unregulated single output
- ▶ $\pm 10\%$ input range
- ▶ Single outputs 3.3 to 24VDC
- ▶ SIP4 or DIP8 package
- ▶ 1.0kVDC isolation, 3.0kVDC option
- ▶ -40°C to $+85^{\circ}\text{C}$ operating temperature
- ▶ 3 year warranty

Applications



Dimensions

See mechanical details

More resources

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Models & ratings

Model number ^(1,2)	Input voltage ⁽³⁾	No load input current	Output voltage	Output current	Efficiency
IE0303S	3.3VDC	25mA	3.3VDC	300mA	71%
IE0305S		25mA	5.0VDC	200mA	75%
IE0309S		30mA	9.0VDC	111mA	74%
IE0312S		45mA	12.0VDC	84mA	74%
IE0315S		40mA	15.0VDC	66mA	77%
IE0324S		40mA	24.0VDC	42mA	77%

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Notes:

1. For DIP package, replace 'S' in model number with 'D'.
2. Add suffix '-H' to model number for 3000VDC isolation.
3. Operation at no load will not damage unit but it may not meet all specifications.

Models & ratings

Model number ^(1,2)	Input voltage ⁽³⁾	No load input current	Output voltage	Output current	Efficiency
IE0503S	5.0VDC	25mA	3.3VDC	300mA	72%
IE0505S		25mA	5.0VDC	200mA	75%
IE0509S		25mA	9.0VDC	111mA	77%
IE0512S		25mA	12.0VDC	84mA	78%
IE0515S		25mA	15.0VDC	66mA	78%
IE0524S		25mA	24.0VDC	42mA	80%
IE1203S	12.0VDC	16mA	3.3VDC	300mA	72%
IE1205S		16mA	5.0VDC	200mA	75%
IE1209S		16mA	9.0VDC	111mA	77%
IE1212S		16mA	12.0VDC	84mA	80%
IE1215S		16mA	15.0VDC	66mA	78%
IE1224S		16mA	24.0VDC	42mA	78%
IE1505S	15.0VDC	9mA	5.0VDC	200mA	78%
IE2403S	24.0VDC	10mA	3.3VDC	300mA	72%
IE2405S		10mA	5.0VDC	200mA	75%
IE2409S		10mA	9.0VDC	111mA	77%
IE2412S		10mA	12.0VDC	84mA	80%
IE2415S		10mA	15.0VDC	66mA	78%
IE2424S		10mA	24.0VDC	42mA	80%

Notes:

- For DIP package, replace 'S' in model number with 'D'.
- Add suffix '-H' to model number for 3000VDC isolation.
- Operation at no load will not damage unit but it may not meet all specifications.

Input



Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range		±10		%	Nominal
Input reflected ripple current		20		mA pk-pk	12µH inductor, 5Hz to 20MHz
Input reverse voltage protection	None				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Minimum load	0			%	Operation at no load will not damage unit but it may not meet all specifications.
Line regulation		1.2/1		%	Δ Vin
Load regulation		±10		%	3.3V models ±20%, 15V model ±8%
Setpoint accuracy		±3		%	
Ripple & noise			100	mV pk-pk	20MHz bandwidth
Temperature coefficient		0.02		%/°C	
Maximum capacitive load		220		µF	

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