

SWG75 SERIES

DC/AC single output ring generator



- Provides 75VA of ringer output power
- Typical efficiency 78%
- Short circuit protection
- Operating temperature up to 70°C
- Internal sine wave reference
- Remote ON/OFF control
- Opto-isolated cadencing ON/OFF control
- Peak output DC biased current capability
- Stand-offs for optional heatsink mounting

The SWG75 ring current generator series of DC/AC inverters offer 75VA of output power with industry standard footprints and configurations. The design is specifically tailored for PABX system applications to ensure ease of implementation in customer applications. These special features include cadencing output ON/OFF, peak output DC biased current capability at off-hook transition.

[2 YEAR WARRANTY]

SPECIFICATION All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Nominal voltage		75VAC
Voltage accuracy	No load	±3.0V
Load regulation	NL to FL resistive	±2.0%
Line regulation	Low line to high line	±2.0%
Load impedance	Resistive load (See Note 1) Capacitive load (See Note 1)	75Ω 82 bells
Output frequency		25Hz ±2Hz
Maximum output current		2.2A
Output ripple and noise	Switching to 20MHz	5V pk-pk
Output ripple frequency	Full load	180kHz, nominal
Total harmonic distortion	Resistive load	5.0% max.
Output current		1.0A
DC offset		±2V max.
INPUT SPECIFICATIONS		
Input voltage range	48VDC nominal	36 to 60VDC
Input current		3A max. @ 36VDC
Input filter		Pi network
Input undervoltage (output clipped)	48VDC input model	34VDC max.
Reference input impedance		Internal sine-wave reference oscillator
Remote ON/OFF Logic compatibility	(See Note 4)	Opto-isolated control inputs
Response time		<100ms and start from positive going zero crossing

GENERAL SPECIFICATIONS		
Efficiency	Resistive load	75% typ.
Isolation voltage	Input/output Input/remote control	500VDC 500VDC
Isolation resistance	Input/output	1GΩ
Switching frequency	Fixed	90kHz, typical
Case material		Aluminium with plastic non-conductive base
Material flammability		UL94V-0
Weight	(Including heatsink)	450g (15.8oz)
MTBF	MIL-HDBK-217F @ 25°C nominal input voltage	100,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating temperature (ambient) Non-operating	See curve -40°C to +85°C
Relative humidity	Non-condensing	10% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 30,000 feet max.
Vibration	5Hz to 500Hz	2.4G rms (approx.)

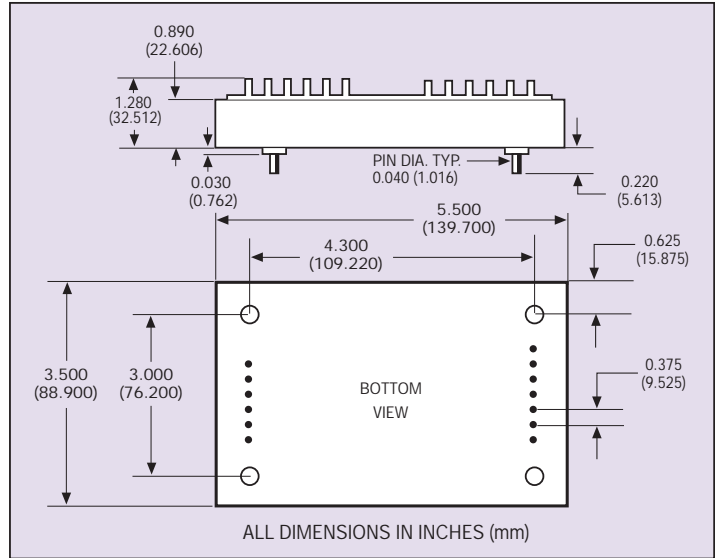
75VA DC/AC ring generator

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT FREQUENCY	OUTPUT CURRENT (RMS)	PEAK OUTPUT DC CURRENT (2)	TYPICAL EFFICIENCY	MODEL NUMBER (5)
48VDC	75VAC	25Hz	1A	480mA	78%	SWG75-48S75C01

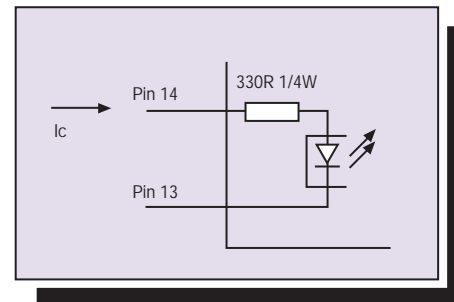
Notes

- 1 bell = 3kΩ in series 1.2μF, 82 bells = 36Ω in series 98μF.
- Peak output DC current is the DC biased current flowing through the output. Maximum duration is 1 second.
- Metal case (pin 7) should either be tied to +INPUT (pin 4) or -INPUT (pin 3) directly or through a capacitor (>10nF).
- Remote pins are inputs of an opto-isolator, with an internal 330Ω 1/4W resistor in series.
- SWG75-48S75C01/P has the same input and output specifications except the remote control logic is reversed.

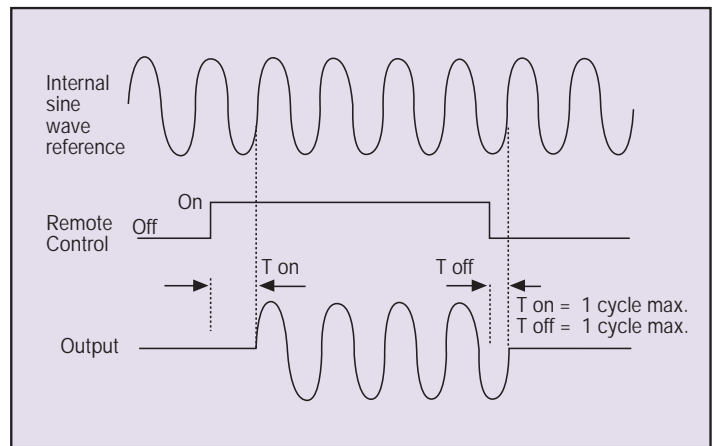
PROTECTION	
Short circuit protection	Indefinite
Short circuit input current	48VDC, 80mA max.
Overvoltage protection	None
Overcurrent protection	2.2A peak bouncing mode
Undervoltage protection	None



PIN CONNECTIONS		
PIN NUMBER	PIN NAME	FUNCTION
1	No Pin	-----
2	No Connection	No Connection
3	- Input	Negative Input
4	+ Input	Positive Input
5	No Connection	No Connection
6	No Connection	No Connection
7	FG (3)	Metal Case
8	No Connection	No Connection
9	Return	Output Common
10	75V	Output
11	No Connection	No Connection
12	No Connection	No Connection
13	- Remote	Remote Return
14	+ Remote	Remote Input



MODEL	I _c	OUTPUT
SWG75-48S75C01	0mA	ON
	10 to 20mA	OFF
SWG75-48S75C01/P (5)	0mA	OFF
	10 to 20mA	ON

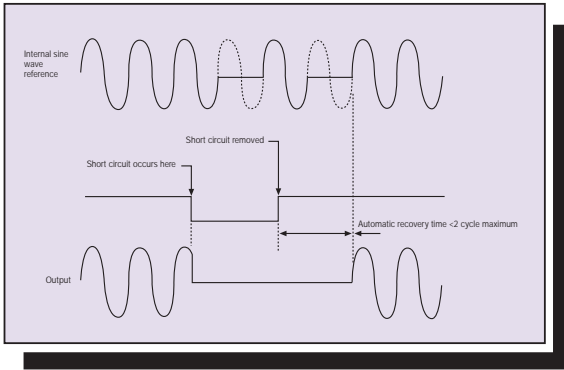


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75VA DC/AC ring generator

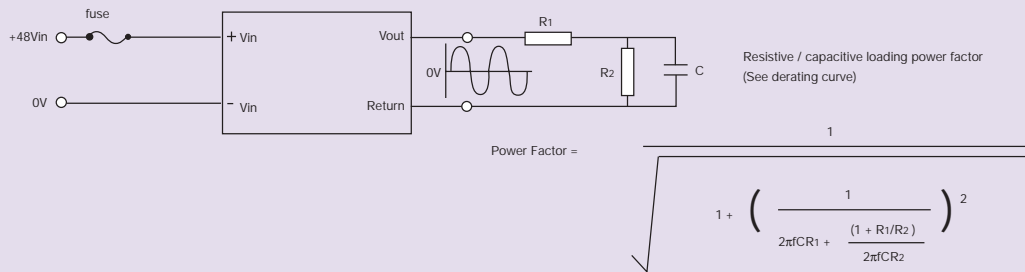
Application notes

1 Automatic zero crossing recover after short circuit removed.

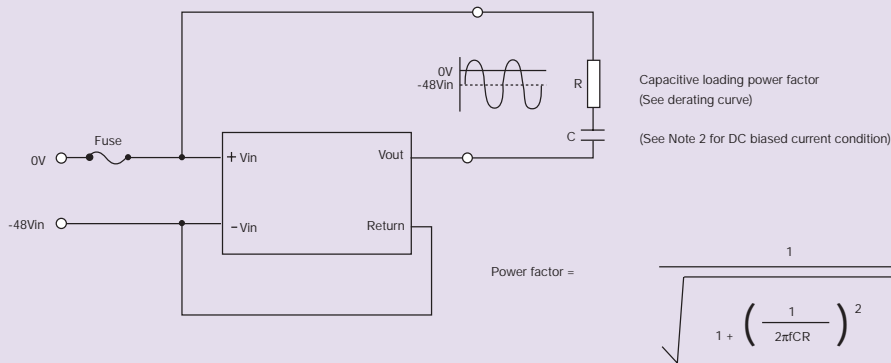


2 Examples of DC biased operation.

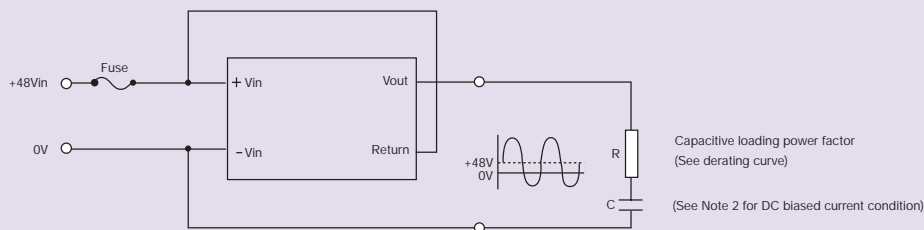
2.1 Non-biased operation



2.2 Negative DC Biased operation.



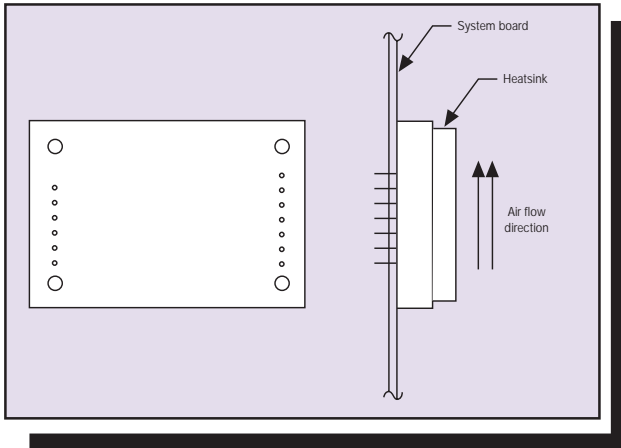
2.3 Positive DC biased operation.



75VA DC/AC ring generator

Application notes continued

- For optimal thermal performance conforming to derating curve, the module should be installed vertically.



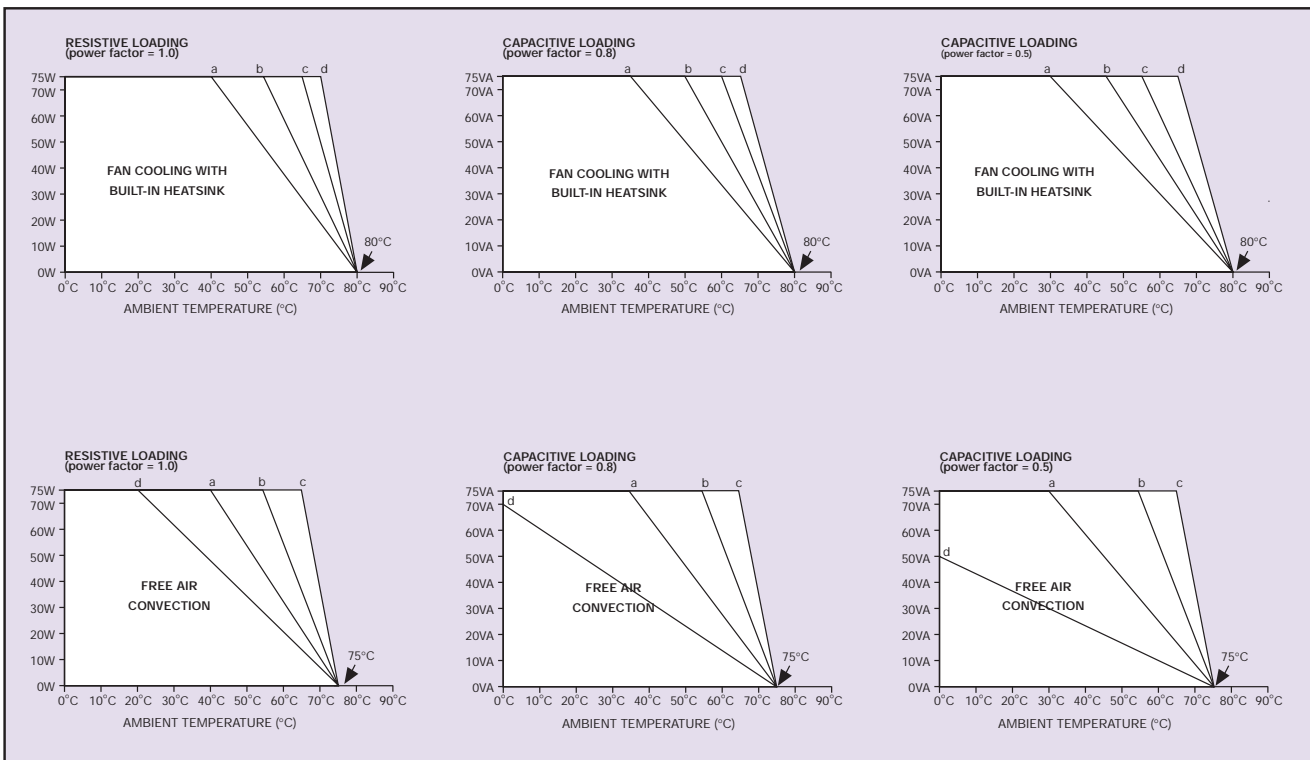
Thermal derating curves (nominal input condition)

Fan cooling with built-in heatsink:

- a = Free air convection
- b = 75 LFPM
- c = 225 LFPM
- d = 500 LFPM

Free air convection

- a = Built-in heatsink
- b = Heatsink of 1°C/W
- c = Heatsink of 0.5°C/W
- d = No heatsink



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