

GENERAL DESCRIPTION

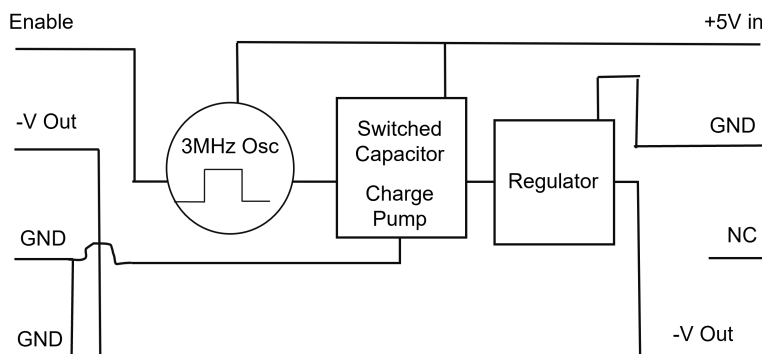
The MCI050N400D08A is an inverting charge-pump multiplier featuring -40V output capability, suited for driving SP2T GaN monolithic switches.

When operated from a +5.0V supply voltage, the MCI050N400D08A uses multiple stages to provide approximately -40V when unloaded. The negative output voltage and/or output current increases with increasing supply voltage. An external feedback circuit can be used to efficiently “throttle back” the converter to supply a given output voltage despite variations in load current. The converter should not be allowed to generate a voltage more negative than -50V, for best reliability. The charge pump has a logic enable which can be left unconnected or driven hi (3.3 to 5V) for normal operation, or apply a logic low to disable the charge pump. Contact Monzite for more information.

FEATURES

- 3 MHz Oscillator
- Tiny 6mm x 8mm x 3.0mm DFN
- Output -40V at 4 mA
- Compatible with: TGS2353-2, TGS2352-2, TGS2355 QPC1005, QPC1006

FUNCTION BLOCK DIAGRAM

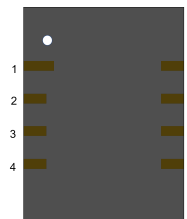


MECHANICAL

The MCI050N400D08A consists of discrete silicon and CMOS IC's -bonded to a laminate substrate and encapsulated. This forms a 6 mm x 8 mm, 8 lead DFN SMT assembly designed for integration into an integrated microwave assembly.

ECCN Code EAR99

MCI050N400D08A is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Pins 2 and 5 are internally connected. Pins 3 and 4 are internally connected

- 1 Enable
- 2 -V OUT (-40V)
- 3 Ground
- 4 Ground
- 5 -V OUT (-40V)
- 6 Do Not Connect
- 7 Ground
- 8 +5V

TRUTH TABLE

EN -VOUT

1 -40v

0 High Z

ELECTRICAL SPECIFICATIONS Vpos +5V

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ENVIRONMENTAL						
To	Operating Temperature		-45		125	Deg C
Ts	Storage Temperature		-55		150	Deg C
OUTPUT						
IO_hi_boost	Output Current			4		mA
Npk	Noise	1 uF external Bypass Capacitor mounted <.050" from package		50		mVpk
Eff	efficiency			60		%
SUPPLY						
V+	Supply Voltage		3	5	5.5	V
DYNAMIC						
F	Oscillator frequency		2.9	3	3.2	MHz
SUPPLY						
Iq	Supply Quiescent Current	No load (Iout = 0mA)			10	mA

ESD Sensitivity HBM Class1B

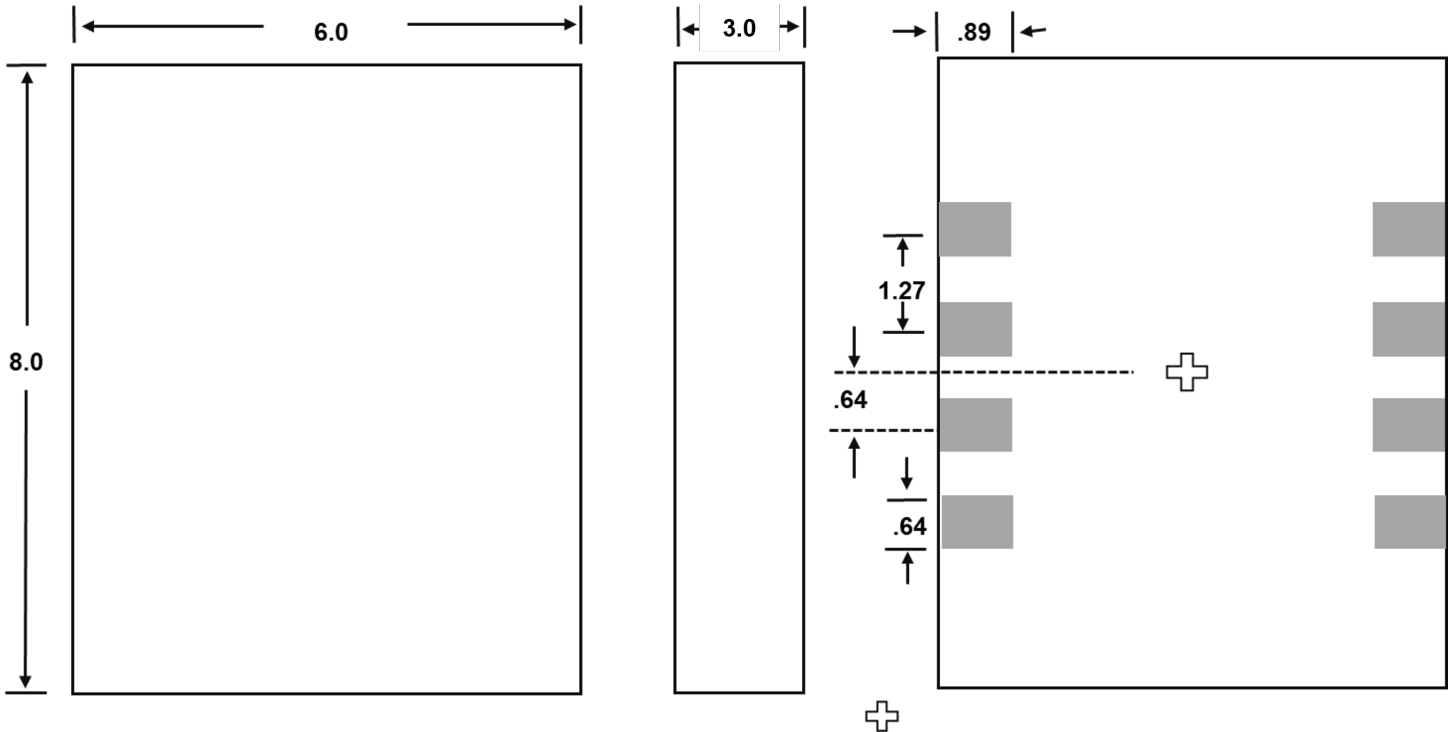
MECHANICAL SPECIFICATIONS

DRAWING NOT TO SCALE. DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

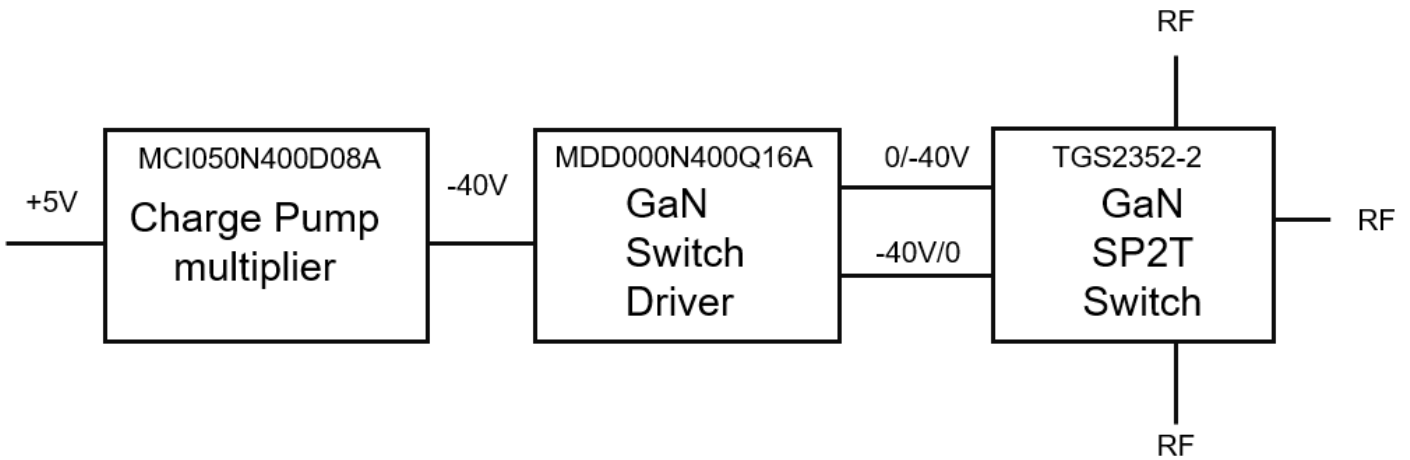
MSL RATING 4 (refer to JEDEC STD 033B)
Shipping Packaging
4" Waffle Packs/trays

MARKING SPECIFICATIONS

Part Number: dot only

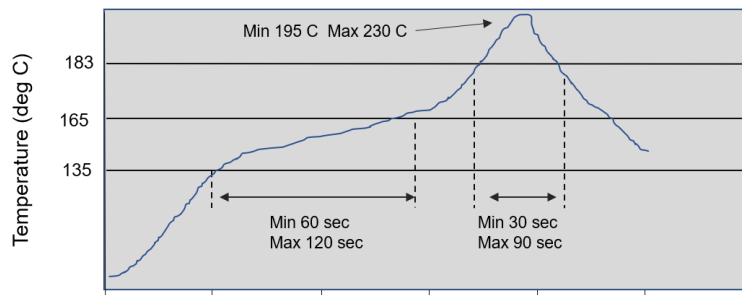


TYPICAL APPLICATION



SOLDER PROFILE

SnPb Temperature Profile example



Pb-Free Temperature Profile example

