

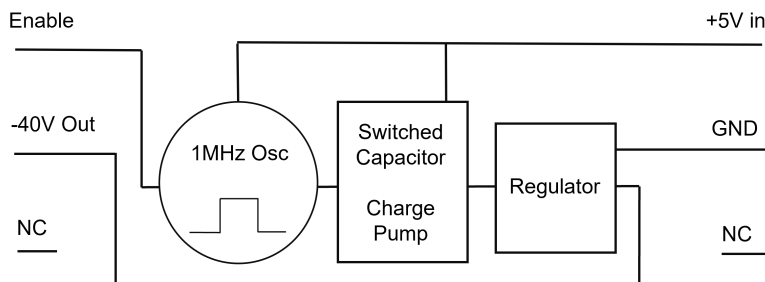
GENERAL DESCRIPTION

The MCI050N400D06A is an inverting charge-pump multiplier featuring -40V output suited for driving SP2T GaN monolithic switches. Operating from a +5V supply voltage, the MCI050N400D06A uses multiple stages to invert and multiply the +5V to +10V into a regulated -40V at up to 4mA out. 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. The charge pump will operate with input supply voltage as low as +3V, providing an unregulated output of about -24V, or +5V to produce a regulated -40V output. Contact Monzite for more information.

FEATURES

- 2 MHz Oscillator
- Tiny 6mm x 6mm x 1.8mm DFN
- Output -40V at 4 mA
- Compatible with: TGS2353-2, TGS2352-2, TGS2355 QPC1005, QPC1006

FUNCTION BLOCK DIAGRAM

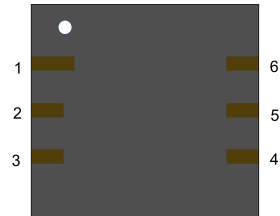


MECHANICAL

The MCI050N400D06A consists of discrete active and passive components on a laminate substrate and encapsulated using a transfer mold process. This forms a 6 mm x 6 mm, 6 lead DFN SMT assembly designed for integration into an integrated microwave assembly.

ECCN Code EAR99

MCI050N400D06A is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Recommend 1 uF capacitor connected from Pin 2 to GND within .1" from the MCI050N400D10A

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

TRUTH TABLE

EN -VOUT

1 -40v

0 High Z

ELECTRICAL SPECIFICATIONS $V_{pos} , -40V$

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
VO	Voltage Output	4 mA load	-38.5		-43	V
Eff	efficiency			60		%
SUPPLY						
V+	Supply Voltage		4.5	5	5.5	V
Iq	Supply Quiescent Current	No load (Iout = 0mA)			10	mA
DYNAMIC						
F	Oscillator frequency		1.9	2	2.2	MHz

ESD Sensitivity HBM Class1B

MECHANICAL SPECIFICATIONS

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

MSL RATING 4 (refer to JEDEC STD 033B)

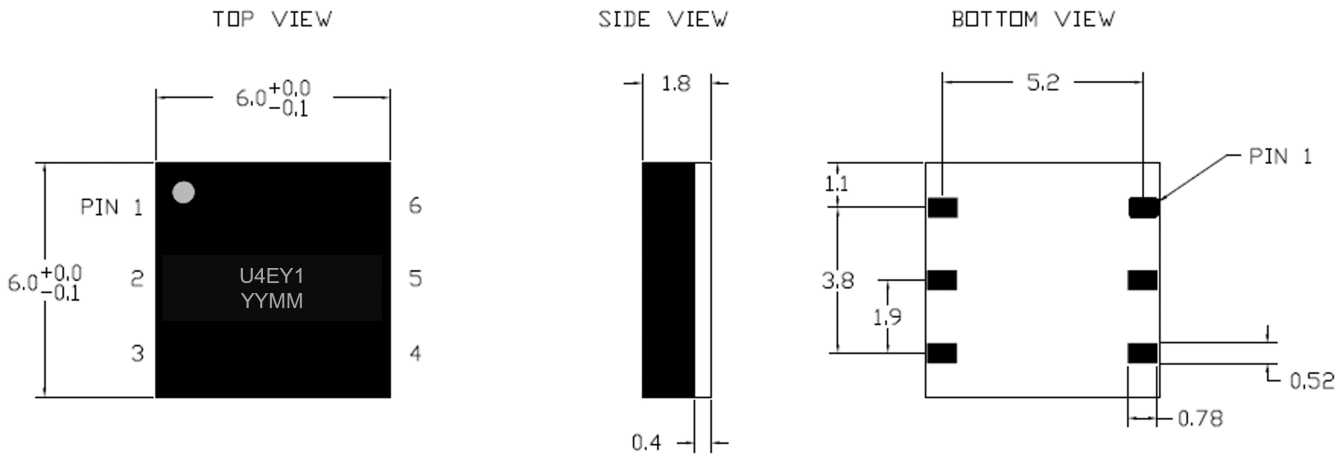
Shipping Packaging

4" Waffle Packs/trays

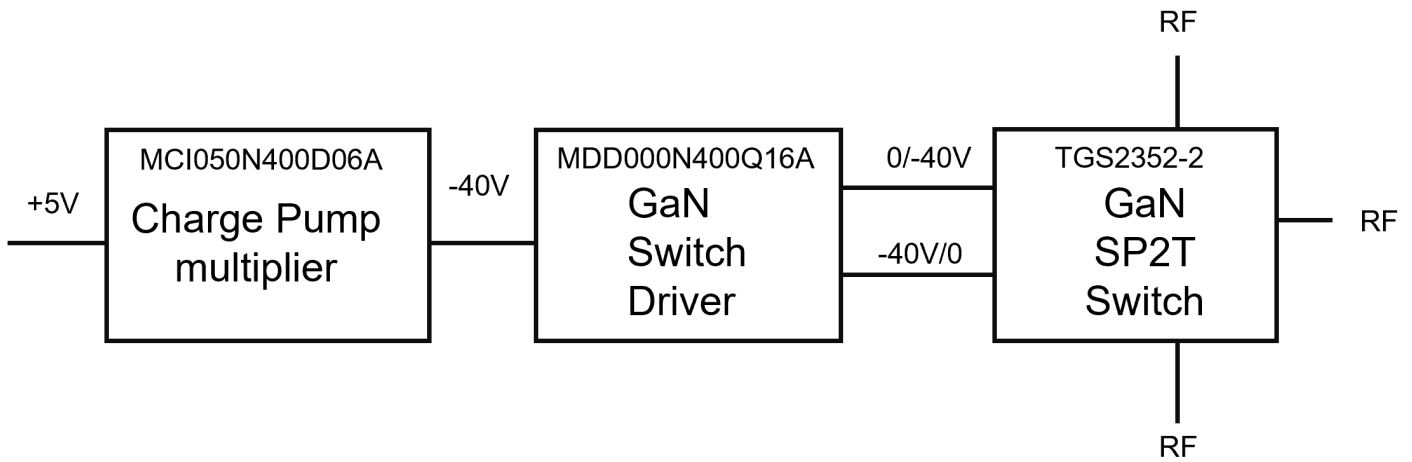
MARKING SPECIFICATIONS

Part Number: U4EY1

Date Code: YYWW

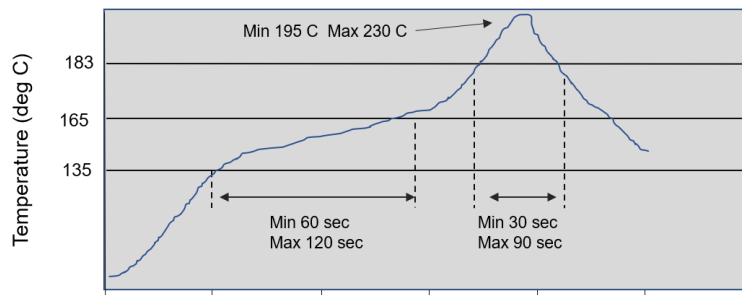


TYPICAL APPLICATION

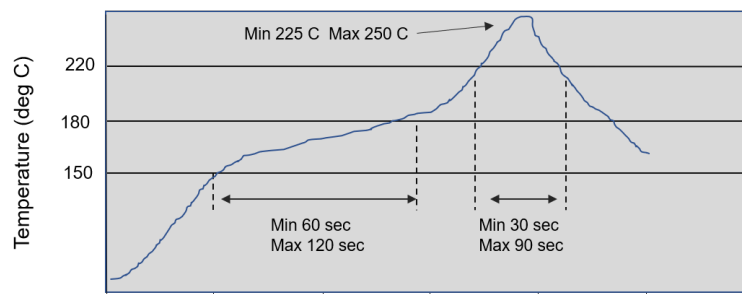


SOLDER PROFILE

SnPb Temperature Profile example

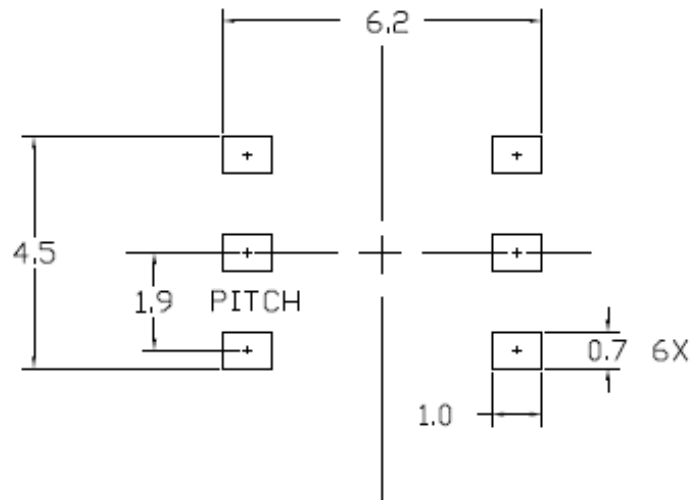


Pb-Free Temperature Profile example



LAND PATTERN

RECOMMENDED
MOUNTING FOOTPRINT



DIMENSIONS: MILLIMETERS