
HA22032T

GaAs MMIC
Down Converter for Micro Wave Application

HITACHI

ADE-207-259 (Z)
1st. Edition
May 1998

Features

- Suitable for down converter of Micro Wave Application(1.5 GHz)
- Low voltage and low current operation (3V, 9 mA typ.)
- Low noise (2 dB typ. @1.5 Ghz)
- High power gain (26 dB typ. @1.5 GHz)
- Built-in matching circuits (50 Ω)
- Small surface mount package (TSSOP-8)

Outline

TTP-8D

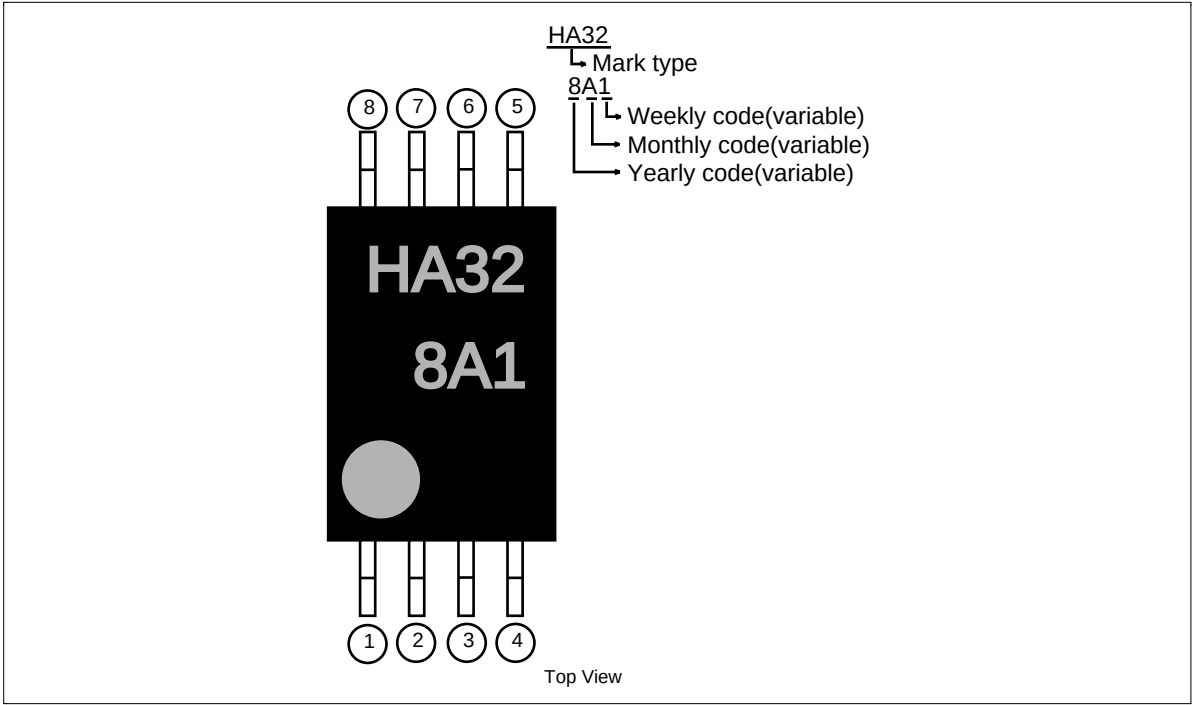


This document may, wholly or partially, be subject to change without notice.

This Device is sensitive to Electro Static Discharge.
An Adequate handling procedure is requested.

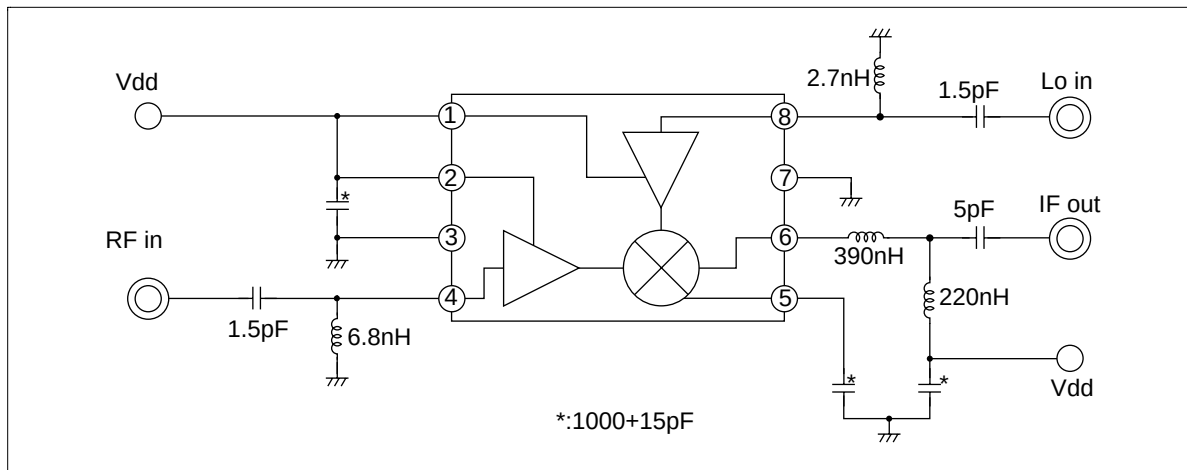
HA22032

Pin Arrangement



Pin No.	Pin name	Function
1	Vddlo	Power supply (Lo)
2	Vddln	Power supply (LNA)
3	GND	Ground
4	RF in	RF input
5	Cs	Bypass capacitor (>100 pF)
6	IF out	IF output
7	GND	Ground
8	Lo in	Local input

Block Diagram



HA22032

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Supply voltage	Vdd	5	V
Maximum current	Idd	15	mA
Power dissipation	Pd	100	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	−55 to +125	°C
Operation temperature	Topr	−20 to +70	°C
Maximum input power	Pin max	+18	dBm

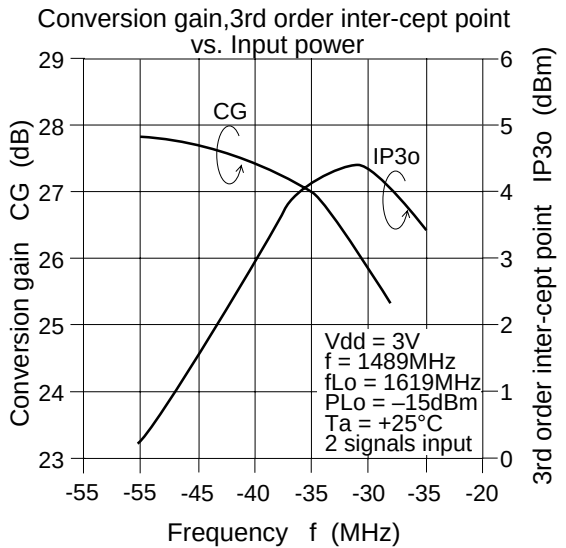
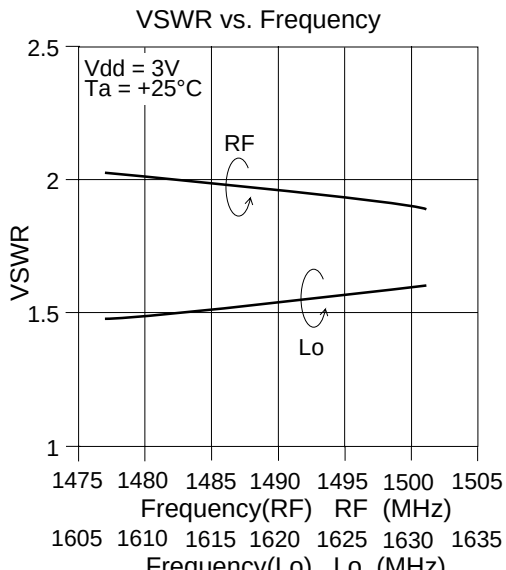
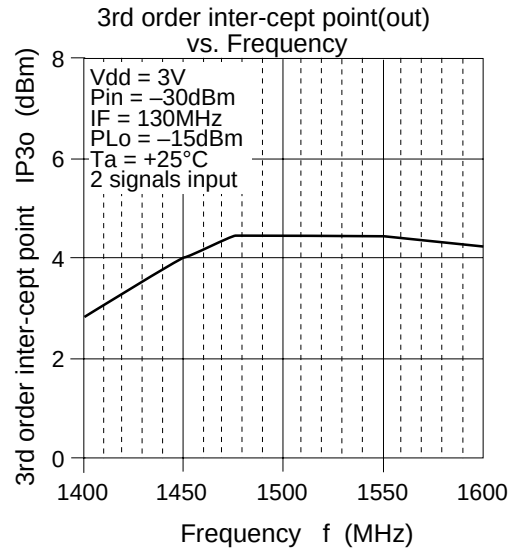
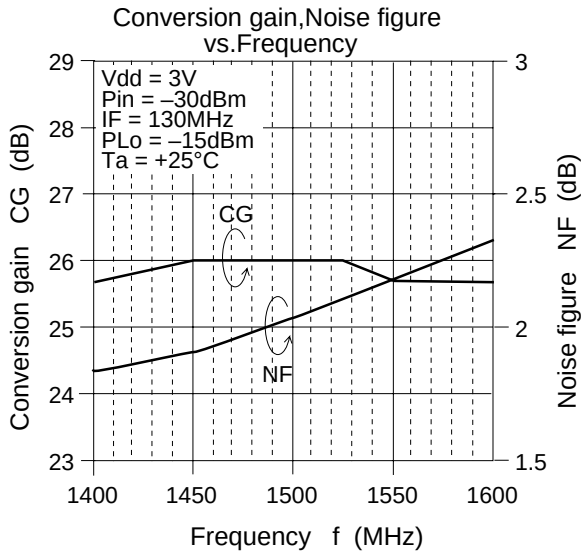
Electrical Characteristics (Ta = 25°C, Vdd = 3V)

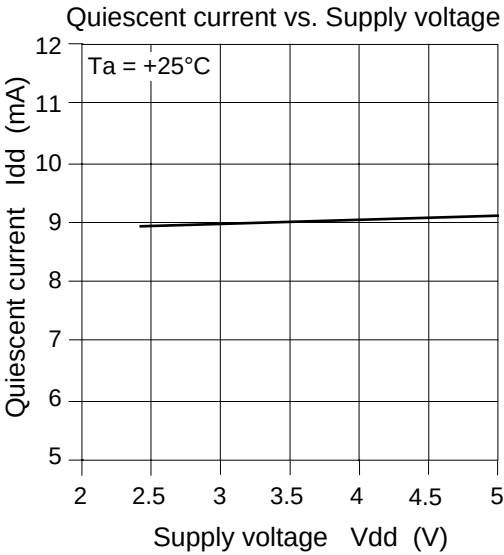
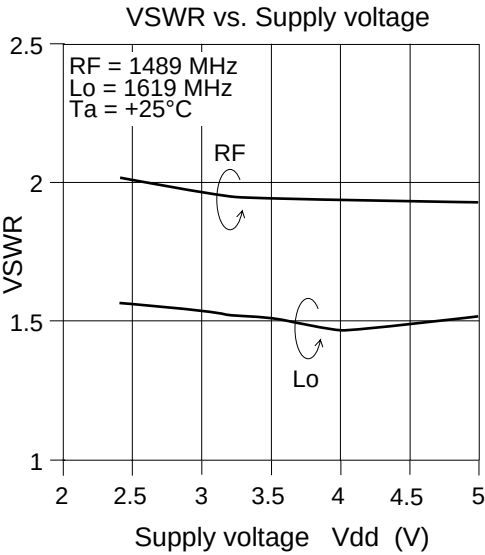
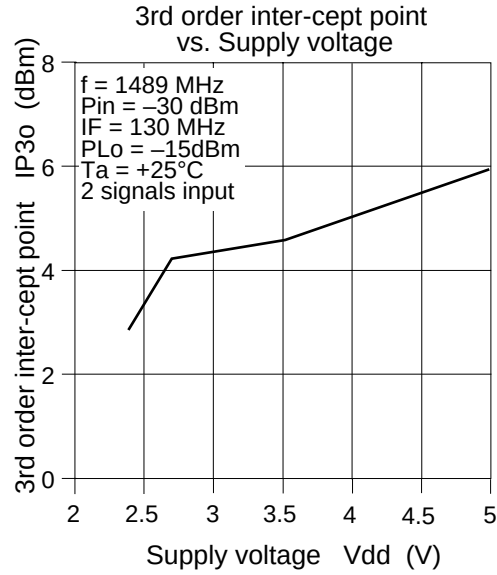
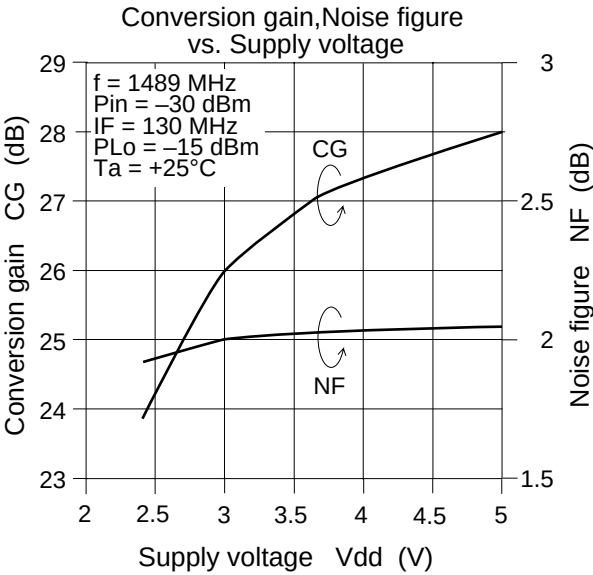
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Quiescent current	Idd	5	9	12	mA	No signal
Power gain	PG	23	26	29	dB	f = 1489 Mhz, fLo = 1619 Mhz, Plo = −15 dBm, IF = 130 Mhz, Pin = −30dBm
Noise figure	NF	—	2	3	dB	f = 1489 Mhz, fLo = 1619 Mhz, Plo = −15 dBm, IF = 130 MHz

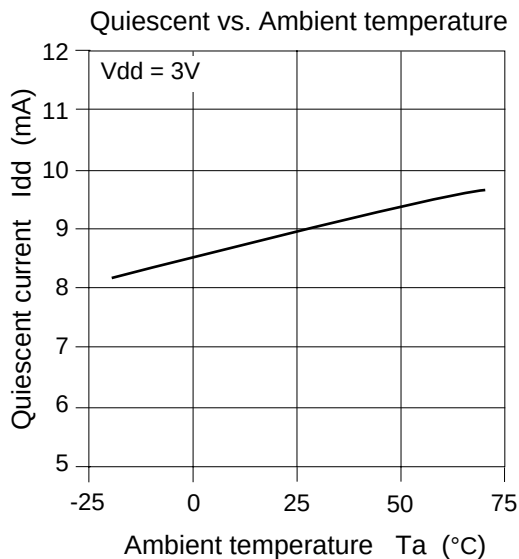
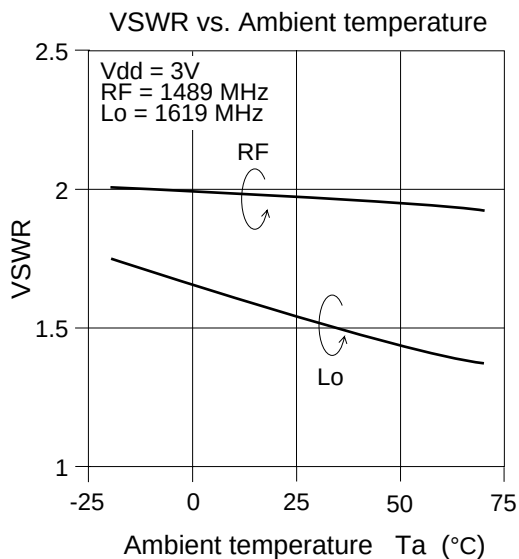
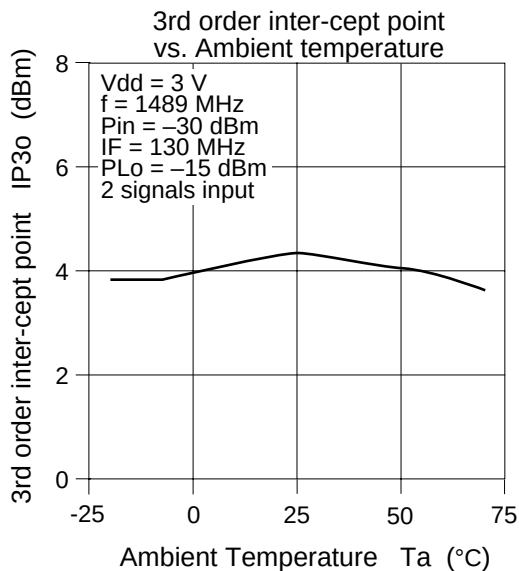
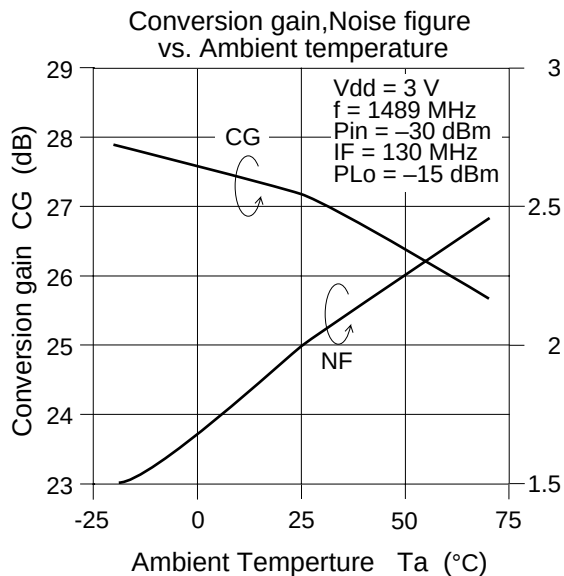
Typical Performance (Ta = 25°C, Vdd = 3V)

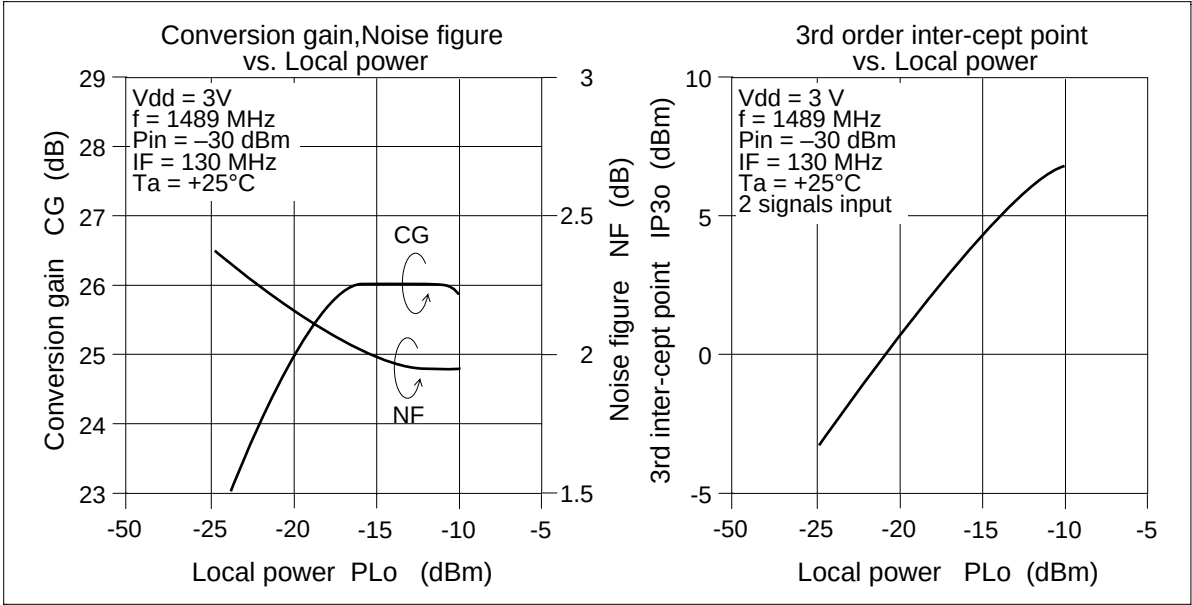
Item	Symbol	Typ	Unit	Test Conditions
VSWR (input)	VSWR in	2	—	f = 1.489 GHz
3rd order inter-cept point	IP3o	+4	dBm	f = 1.489 GHz, fud =1.490 Ghz, Pin = −30 dBm, fLo = 1.619 Ghz, Plo = −15 dBm

Main Characteristics



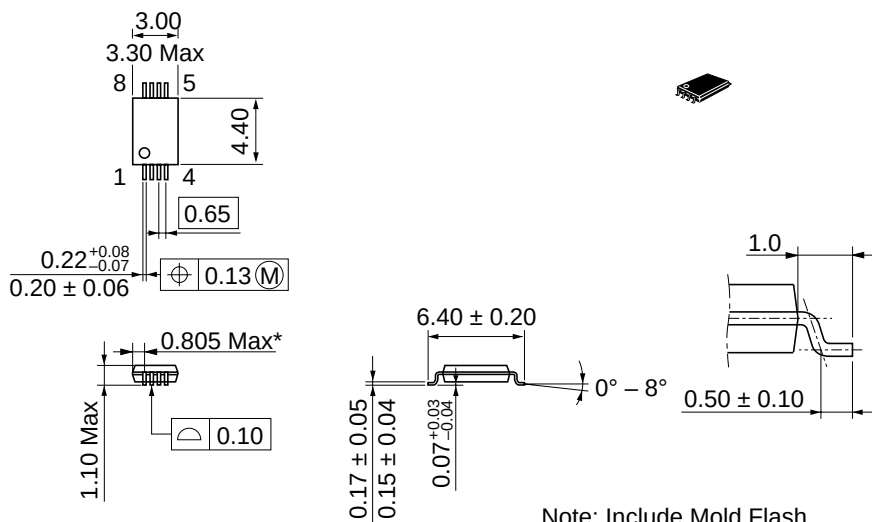






Package Dimensions

Unit: mm



Note: Include Mold Flash

Dimension including the plating thickness
Base material dimension

Hitachi Code	TTP-8D
JEDEC	—
EIAJ	—
Weight (reference value)	—

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HITACHI

Hitachi, Ltd.

Semiconductor & IC Div.

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

Tel: Tokyo (03) 3270-2111

Fax: (03) 3270-5109

For further information write to:

Hitachi Semiconductor
(America) Inc.
2000 Sierra Point Parkway
Brisbane, CA. 94005-1897
U S A
Tel: 800-285-1601
Fax: 303-297-0447

Hitachi Europe GmbH
Continental Europe
Dornacher Straße 3
D-85622 Feldkirchen
München
Tel: 089-9 91 80-0
Fax: 089-9 29 30-00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel: 01628-585000
Fax: 01628-585160

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27359218
Fax: 27306071