

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China







DATA SHEET



GaAs MULTI-CHIP MODULE MC-7845

870 MHz CATV 18 dB POWER DOUBLER AMPLIFIER

DESCRIPTION

The MC-7845 is a GaAs Multi-chip Module designed for use in CATV applications up to 870 MHz. This unit has low distortion, low noise figure and return loss across the entire frequency band.

Reliability and performance uniformity are assured by our stringent quality and control procedures.

FEATURES

· Low distortion

High linear gain

GL = 18.0 dB MIN. @f = 870 MHz

· Low return loss

<R> ORDERING INFORMATION

Part Number	Order Number	Package	Supplying Form
MC-7845	MC-7845-AZ	7-pin special with heatsink (Pb-Free)	25 pcs MAX./Tray

Remark To order evaluation samples, contact your nearby sales office.

Part number for sample order: MC-7845-AZ

ABSOLUTE MAXIMUM RATINGS $(T_A = +25^{\circ}C)$

Parameter	Symbol	Ratings	Unit
Supply Voltage	V _{DD}	30	V
Input Voltage Note	Vi	65.0	dBmV
Operating Case Temperature	Tc	-30 to +100	°C
Storage Temperature	T _{stg}	-40 to +100	°C

Note In case of single tone

Caution: Observe precautions when handling because these devices are sensitive to electrostatic discharge

The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version.

Document No. PG10138EJ02V0DS (2nd edition) Date Published December 2006 NS CP(N)

RECOMMENDED OPERATING CONDITIONS (Zs = ZL = 75 Ω)

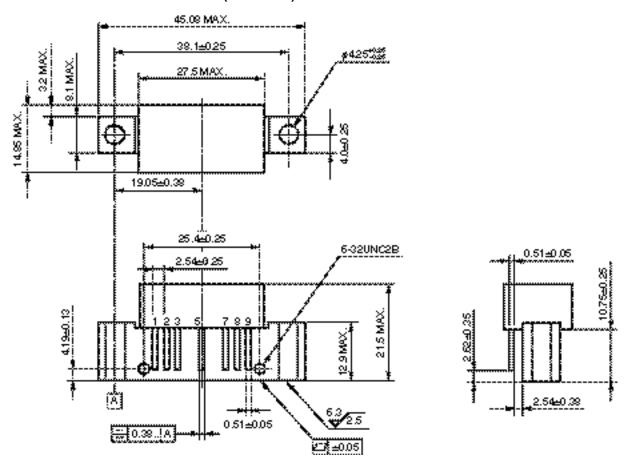
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Supply Voltage	V _{DD}		23.5	24.0	24.5	٧
Input Voltage	Vi	110 channel,	-	36.0	39.0	dBmV
		10 dB tilted across the band				
Operating Case Temperature	Tc		-30	+25	+85	°C

ELECTRICAL CHARACTERISTICS (Tc = 30 \pm 5°C, Vdd = 24 V, Zs = ZL = 75 Ω)

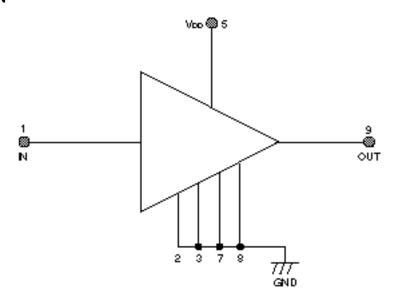
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Linear Gain	GL	f = 870 MHz	18.0	_	19.0	dB
Gain Slope	GSlope	f = 40 to 870 MHz	0.2	0.6	1.0	dB
Gain Flatness	GFlatness	f = 40 to 870 MHz, Peak to valley	1	1	0.6	dB
Noise Figure 1	NF1	f = 50 MHz	1	1	6.5	dB
Noise Figure 2	NF2	f = 870 MHz	1	-	7.0	dB
Operating Current	lod	RF OFF	275	-	375	mA
Composite Triple Beat	СТВ	110 channel,	-	-	-60	dBc
Cross Modulation	XM	Vo = 50 dBmV at 745.25 MHz, 10 dB tilted across the band	-	-	-55	dBc
Composite 2nd Order Beat	cso		-	-	-63	dBc
Input Return Loss 1	RLi1	f = 40 to 160 MHz	20	-	-	dB
Input Return Loss 2	RLi2	f = 160 to 320 MHz	19	-	-	dB
Input Return Loss 3	RLi3	f = 320 to 640 MHz	17.5	-	-	dB
Input Return Loss 4	RLi4	f = 640 to 870 MHz	16	-	-	dB
Output Return Loss 1	RLo1	f = 40 to 160 MHz	20	1	1	dB
Output Return Loss 2	RLo2	f = 160 to 320 MHz	19	I	I	dB
Output Return Loss 3	RLo3	f = 320 to 640 MHz	17.5	I	ı	dB
Output Return Loss 4	RLo4	f = 640 to 870 MHz	16	-	-	dB

PACKAGE DIMENSIONS

7-PIN SPECIAL WITH HEATSINK (UNIT: mm)



PIN CONNECTION



NOTE ON CORRECT USE

- (1) The space between PC board and root of the lead should be kept more than 1 mm to prevent undesired stress to the lead and also should be kept less than 4 mm to prevent undesired parasitic inductance. Recommended that space is 2.0 to 3.0 mm typical.
- (2) Recommended torque strength of the screw is 59 to 78 Ncm.
- (3) Form the ground pattern as wide as possible to minimize ground impedance.
 (to prevent undesired oscillation)
 All the ground pins must be connected together with wide ground pattern to decrease impedance difference.

RECOMMENDED SOLDERING CONDITIONS

This product should be soldered in the following recommended conditions. Other soldering methods and conditions than the recommended conditions are to be consulted with our sales representatives.

Soldering Method	Soldering Conditions	Condition Symbol
Pin Part Heating	Pin area temperature : less than 350°C Note	-
	Hour: Within 3 sec./pin	

Note The point of pin part heating must be kept more than 1.2 mm distance from the root of lead.

Caution

GaAs Products

This product uses gallium arsenide (GaAs).

GaAs vapor and powder are hazardous to human health if inhaled or ingested, so please observe the following points.

- Follow related laws and ordinances when disposing of the product. If there are no applicable laws and/or ordinances, dispose of the product as recommended below.
 - Commission a disposal company able to (with a license to) collect, transport and dispose of materials that contain arsenic and other such industrial waste materials.
- 2. Exclude the product from general industrial waste and household garbage, and ensure that the product is controlled (as industrial waste subject to special control) up until final disposal.
- Do not burn, destroy, cut, crush, or chemically dissolve the product.
- Do not lick the product or in any way allow it to enter the mouth.