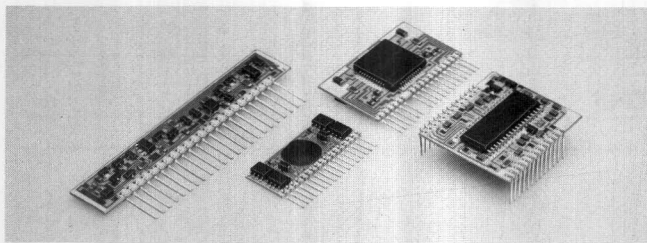


CIRCUIT MODULE DESIGN (Hybrid ICs)

		modules	modules	modules
COMPUTER	PC, Mini, Super, Notebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	FDD, HDD, CD-ROM		<input type="radio"/>	<input type="radio"/>
	I/O, Interface, SCSI		<input type="radio"/>	<input type="radio"/>
	FA, NCU, Controller		<input type="radio"/>	<input type="radio"/>
	Data Acquisition/Instr.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	CD-Interactive, Multimedia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COMMUNICATIONS	TDMA/GSM/PCN/GPS/CDMA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	PBX/ISDN/LAN/WAN	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	FAX/PC FAX Boards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Handheld Systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AUTOMOTIVE	Engine Control Systems		<input type="radio"/>	<input type="radio"/>
	Multiplexing Systems		<input type="radio"/>	<input type="radio"/>
	Car Audio Systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Car Alarms/Controls		<input type="radio"/>	<input type="radio"/>
CONSUMER	Digital Audio/Pro	<input type="radio"/>	<input type="radio"/>	
	Home/Portable Audio	<input type="radio"/>	<input type="radio"/>	
	DBS Tuners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Electronic Appliances		<input type="radio"/>	<input type="radio"/>

CUSTOM CIRCUIT MODULE DESIGN (Hybrid ICs)



Murata Electronics offers custom Thick Film Circuit Module design engineering and production capabilities. Our advanced computer aided design and manufacturing (CAD/CAM) systems allow us to respond to your various needs with quality and speed. If you have an application that could use our established Thick Film Technology, please contact us for engineering consultation.

ORDERING INFORMATION

Please provide the following information when inquiring about custom modules:

- Functional description of circuit
- Application
- Schematic
- Bill of materials
- Package type preferred (SIP or DIP or SMD)
- Package dimensions (L x W x H) (Max.)
- Your target cost for module
- Your development schedule requirements
- Your production schedule
- Expected annual usage (EAU)
- Your technical contact, phone #, and fax #

*Note: One of our design engineers will contact you to discuss the design following our own preliminary evaluation. We will suggest the most cost effective methods to achieve your objectives together with the applicable technology. The design up to final production remains flexible and changes may be made to meet changing requirements.

ACTIVE FILTERS

Murata Electronics Active Filters have achieved high performance and excellent quality by utilizing standard Thick Film processes and our own original circuit technology.

FEATURES

- High Density/Minutization achieved by use of Multi-Layer, Fine Line, and Through Hole Hybrid IC Technology.
- Laser Trim technology allows high accuracy and high performance designs.
- VE (Value Engineering) provided by Murata engineers.
- Frequency Ranges 10Hz~500KHz.
- Semi-Custom and Custom design support.

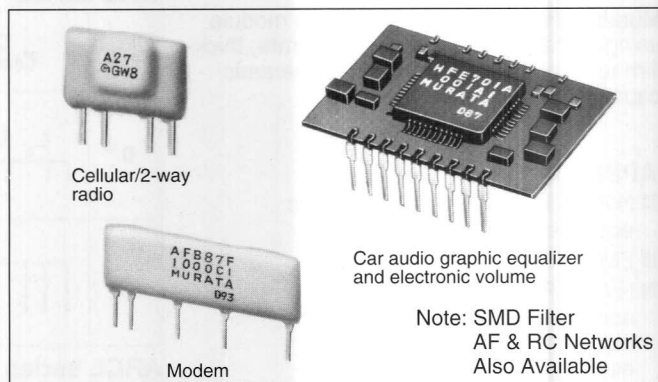
HOW TO REQUEST MURATA FILTERS

Provide the following information:

1. Frequency characteristics (Graph, Data, or Schematic).
2. Package style and size required.
3. Filter application and reliability specifications.
4. Estimated annual usage.
5. Your project schedule.
6. Your engineering contact, telephone and fax number.

Low cost standard, Low pass audio filter designs: (Minimum order quantities of 500pcs—Made to order)

P/N	Pass Band (Hz)	Filter Order	Type	T.H.D. %	Dimensions L x W x H (mm)
AFL25F3000S10	20 to 3KHz	5	Tchebycheff with Poles	.003	14 x 4 x 9
AFL89F8000D1	20 to 8 KHz	9	Tchebycheff with Poles	.003	38 x 17 x 5.5
AFL89F10000D1	20 to 10K	9	Tchebycheff with Poles	.003	
AFL89F15000D1	20 to 15K	9	Tchebycheff with Poles	.003	
AFL89F20000D1	20 to 20K	9	Tchebycheff with Poles	.003	
AFL89F22000D1	20 to 22K	9	Tchebycheff with Poles	.003	



HOW MURATA WILL RESPOND

1. Engineering consultation (if required).
2. Specification, tooling charge, and pricing based on your request.

SEMI – STANDARD DESIGN

EXAMPLES OF MURATA HYBRID IC:

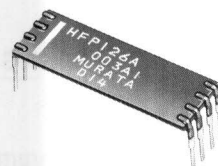
Single Ended Passive



18 Circuit SMD Type

LCD Display

5V → -22V



5 → 5V
5 → 12V
5 → 15V
24 → 5V
48 → 5V

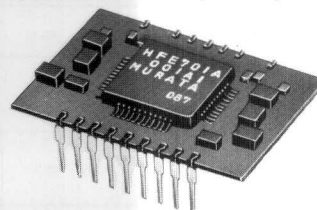


HFP143DH05121A1 HFP143DJ05121A1

DC – DC CONVERTORS

- Notebook/Handheld PC's
- Communication Equipment
- Barcode readers
- Telecommunication/PBX

GRAPHIC EQUALIZER FOR CAR AUDIO



Also Available: RDS module; Fixed EQ's; AM Stereo Decoders;
AM Beat Filters