

To our customers,

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

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Standard Linear IC

Product Name Composition

1. Bipolar Standard

HA 17 *** FPJ EL
 (1) (2) (3) (4) (5)

(1) This field indicates the series name.

(2) This field indicates the application.

Code	Application
16	Original products for the communications industry
17	Standard second-source products

(3) This field gives the product identification code.

(4) This field indicates the package grade classification.

Code	Package	Application
F	Plastic flat package (JEITA)	General purpose
FP		Communications industry
FPJ		Automotive
RP	Plastic flat package (JEDEC)	General purpose, Communications industry
T	Plastic flat package (TTP-8DA, TTP-14DV)	General purpose, Communications industry
None	Plastic dual inline package (other than DP-8), TO-92MOD and TO-92	General purpose
P		Communications industry
PJ		Automotive
None	DP-8B	General purpose
PS		Communications industry
PSJ		Automotive
U	UPAK	General purpose
UP		Communications industry
LP	MPAK-5	Communications industry
LTP	MPAK	Communications industry

(5) This field indicates the taping and packing specifications.

Package	Symbol	Packing Specifications
Flat package (other than TTP-14DV)	EL	Embossed taping L type
TTP-14DV	ELL	Embossed taping L type
TO-92MOD, TO-92	TZ	Fan-fold taping
UPAK	TL * ¹	Embossed taping L type
MPAK-5, MPAK	EL	Embossed taping L type

Note: 1. The TL markings indicate embossed taping specifications for UPAK products.

2. CMOS Operational Amplifier

HA 1630 S ** CM EL
 (1) (2) (3) (4) (5) (6)

- (1) This field indicates the series name.
- (2) This field indicates the CMOS operational amplifier.
- (3) This field indicates the number of built-in channels.

Code	Number of Built-in Channels
S	1 ch (Single)
D	2 ch (Dual)
Q	4 ch (Quad)

- (4) This field gives the product identification code.
- (5) This field indicates the package classification.

Code	Package
CM	CMPAK-5
LP	MPAK-5
T	TTP-8DA, TTP-14DV
FP	FP-8D, FP-14DA
RP	FP-8DC, FP-14DNV
None	DP-8B, DP-14

- (6) This field indicates the package classification.

Package	Symbol	Packing Specifications
CMPAK-5, MPAK-5	EL	Embossed taping L type
TTP-8DA	EL	Embossed taping L type
TTP-14DV	ELL	Embossed taping L type
FP-8D, FP-14DA	EL	Embossed taping L type
FP-8DC, FP-14DNV	EL	Embossed taping L type

Revision Record

Rev.	Date	Description	
		Page	Summary
1.00	Jul.28.04	—	First edition issued

Keep safety first in your circuit designs!

1. Renesas Technology Corp. puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.
Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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