

CADEKA[®] Hybrid Amplifier Products



CADEKA designs and manufactures high-speed hybrid amplifiers using our internal thin film deposition process. These high performance amplifiers are direct replacements for National/Comlinear hybrid products. They offer a unique combination of speed, dynamic range, low distortion, and drive capability making them ideally suited for many high-end instrumentation, industrial, and military applications.

CADEKA ADDED VALUE

- Slew rate >2,400V/μs
- DC coupled bandwidth from 100's of MHz to 1GHz
- 10V_{pp} output swing capability
- >100mA output current drive
- Military and extended industrial temperature range
- Available hermetic testing, environmental screening, electrical testing to MIL-H-38534, thermal shock, constant acceleration, and PDA (Hot Solder DIP)

High Frequency (>1GHz) Amplifiers

Product	-3dB Bandwidth (MHz)	2nd/3rd HD (dBm @ MHz)		Rise Time (ns)	Directly Replaces	Notes
KH104	1100	-47/-53 0 @ 100	N/A	325	CLC104	Fixed 50Ω input/output Fixed 14dB gain
KH600	1100	-74/-64 10 @ 50	-65/-70 4 @ 200	350	N/A	Fixed 14dB gain, 100Ω (differential) inputs/outputs

Driver Amplifiers

Product	Key Features	-3dB Bandwidth (MHz)	Full Power BW (MHz @ V _{pp})	2nd/3rd HD (V _{pp} @ MHz)				Rise Time (ns)	Opt Gain Range (V/V)	R _{OUT} Range (Ω)	Output (V, mA)	Directly Replaces
KH560	Adjustable R _{OUT}	215	120 @ 10	-60/-62 2 @ 20	-54/-44 2 @ 100	-46/-38 10 @ 20	-33/-25 10 @ 50	1.6	+5 to +80	25 to 200	±10, 210	CLC560
KH561	Adjustable R _{OUT}	215	150 @ 10	-59/-62 2 @ 20	-35/-49 2 @ 100	-50/-41 10 @ 20	-40/-30 10 @ 100	1.5	+5 to +80	25 to 200	±10, 210	CLC561
KH563	Adjustable R _{OUT}	215	150 @ 10	-59/-62 2 @ 20	-35/-49 2 @ 100	-50/-41 10 @ 20	-30/-40 10 @ 100	1.5	+5 to +80	25 to 200	±10, 210	CLC561

High Performance Amplifiers

Product	-3dB Bandwidth (MHz) (G = 4/20/40)			Opt Gain Range (G = V/V)	2nd/3rd HD (V _{2pp} @ 20MHz)	Full Power BW (MHz @ V _{pp})	Settling Time (ns/%)	Slew Rate (v/μs)	Output (V, mA)	Directly Replaces
KH103	230	150	130	±1 to 40	-48/-48	80 @ 20	10, 0.4	6000	±11, 200	CLC103
KH200	100	95	90	±1 to 50	-52/-58	25 @ 20	25, 0.02	4000	±12, 100	CLC200
KH205	190	170	120	+7 to +50/-1 to -50	-57/-68	100 @ 10	24, 0.05	2400	±12, 50	CLC205
KH206	200	180	90	+7 to +50/-1 to -50	-59/-67	70 @ 20	24, 0.05	3400	±12, 100	CLC206
KH207	260	170	90	+7 to +50/-1 to -50	-80/-85	100 @ 10	24, 0.05	2400	±12, 150	CLC207
KH220	200	190	160	±1 to 50	-58/-62	100 @ 10	15, 0.02	7000	±12, 50	CLC220
KH231	185/G = 1	165/G = 2	120/G = 5	±1 to 5	-57/-59	95 @ 10	15, 0.05	3000	±12, 100	CLC231
KH232	220/G = 1	175/G = 2	110/G = 5	±1 to 5	-69/-69	95 @ 10	15, 0.05	3000	±12, 100	CLC232
KH300	105	85	70	±1 to 40	-	45 @ 20	20, 0.8	3000	±11, 100	CLC300, CM300

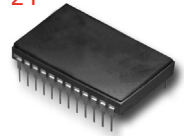
Encased Series Amplifiers

Product	-3dB Bandwidth (MHz)	Settling Time (ns, %)	Output (V, mA)	Slew Rate (V/ μ s)	Gain Range (V/V)	Directly Replaces
KE103	150	10, 0.4	$\pm 11, \pm 200$	6000	± 1 to ± 40	E103
KE104	1100	1.2, 0.8	$\pm 1.6, \pm 40$	4500	Fixed 14dB	E104
KE200	95	18, 0.1	$\pm 12, \pm 100$	4000	± 1 to ± 50	E200
KE220	190	8, 0.1	$\pm 12, \pm 50$	7000	± 1 to ± 50	E220
KE231	165	12, 0.1	$\pm 11, \pm 100$	3000	± 1 to ± 25	E231

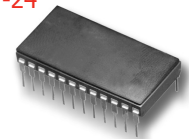
TO8-12



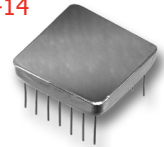
0.6" Wide Ceramic DIP-24



0.8" Wide Ceramic DIP-24



Double Wide Metal DIP-14



Encased Amplifier



Note: Packages are not actual size.

Evaluation Boards

Evaluation Board	Description
KEB007	Basic KH600 evaluation board
KEB009	KH600 evaluation board with offset and I_{CC} adjustment option
730006	KH103 24-pin DIP, non-inverting evaluation board
730007	KH104 14-pin evaluation board
730009	KH2xx 12-pin TO8 evaluation board
730019	KH560/KH561 24-pin DIP evaluation board

Ordering Information

Generic Part Number	Package	Available Options (Part Number Suffix) ¹				
		AI	AK	AM	HXC	HXA
KH103	0.8" Wide Ceramic DIP-24	•	•	•	•	•
KH104	Double Wide Metal DIP-14	•				
KH200	TO8-12	•	•	•	•	•
KH205	TO8-12	•	•	•	•	•
KH206	TO8-12	•	•	•	•	•
KH207	TO8-12	•	•	•	•	•
KH220	TO8-12	•	•	•	•	•
KH231	TO8-12	•	•	•	•	•
KH232	TO8-12	•	•	•	•	•
KH300A	0.8" Wide Ceramic DIP-24					
KH560	0.6" Wide Ceramic DIP-24	•	•	•		
KH561	0.6" Wide Ceramic DIP-24	•	•	•		
KH600	TO8-12	•				
KE103	Encased Amplifier (See data sheet for complete ordering information)					
KE104	Encased Amplifier (See data sheet for complete ordering information)					
KE200	Encased Amplifier (See data sheet for complete ordering information)					
KE220	Encased Amplifier (See data sheet for complete ordering information)					
KE231	Encased Amplifier (See data sheet for complete ordering information)					

For additional information regarding our products, please visit us at: cadeka.com

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