



A Selection of Hittite Components for FIBER OPTICS

FIBER OPTICS, OC-48 to 100G

Fiber Optic Custom Solutions Inquiries: FO@hittite.com

Function	OC-1	OC-3	OC-12	OC-48	OC-192	OC-768
Active Bias Controller	HMC920LP5E	HMC920LP5E	HMC920LP5E	HMC920LP5E	HMC920LP5E	HMC920LP5E
Broadband Gain Blocks	HMC311SC70E HMC405 HMC474MP86E HMC474SC70E HMC475ST89E HMC476SC70E HMC478SC70E HMC788LP2E	HMC311SC70E HMC405 HMC474MP86E HMC474SC70E HMC475ST89E HMC476SC70E HMC478SC70E HMC788LP2E	HMC311SC70E HMC405 HMC474MP86E HMC474SC70E HMC475ST89E HMC476SC70E HMC478SC70E HMC788LP2E	HMC311SC70E HMC405 HMC474MP86E HMC474SC70E HMC475ST89E HMC476SC70E HMC478SC70E HMC788LP2E	HMC405	
Limiting Amplifiers	HMC750LP4E HMC865LC3C HMC866LC3C HMC914LP4E	HMC750LP4E HMC865LC3C HMC866LC3C HMC914LP4E	HMC750LP4E HMC865LC3C HMC866LC3C HMC914LP4E	HMC750LP4E HMC865LC3C HMC866LC3C HMC914LP4E	HMC750LP4E HMC865LC3C HMC866LC3C HMC914LP4E	HMC865LC3C HMC866LC3C
Linear & Power Amplifiers	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4	HMC441LC3B HMC441LP3E HMC441LH5 HMC441LM1 HMC498LC4 HMC442LM1 HMC442LC3B HMC499LC4
Low Noise Amplifiers	HMC517LC4 HMC564LC4	HMC517LC4 HMC564LC4	HMC517LC4 HMC564LC4	HMC517LC4 HMC564LC4	HMC517LC4 HMC564LC4	HMC517LC4 HMC564LC4
Microwave & Optical Amplifiers	HMC870LC5 HMC871LC5	HMC870LC5 HMC871LC5	HMC870LC5 HMC871LC5	HMC870LC5 HMC871LC5	HMC870LC5 HMC871LC5	
Transimpedance Amplifier	HMC799LP3E HMC690	HMC799LP3E HMC690	HMC690	HMC690	HMC690	
Wideband (Distributed) & Driver Amplifiers	HMC-AUH312 HMC-AUH232 HMC-AUH249 HMC633LC4 HMC634LC4 HMC635LC4	HMC-AUH312 HMC-AUH232 HMC-AUH249 HMC633LC4 HMC634LC4 HMC635LC4	HMC-AUH312 HMC-AUH232 HMC-AUH249 HMC633LC4 HMC634LC4 HMC635LC4	HMC-AUH312 HMC-AUH232 HMC-AUH249 HMC633LC4 HMC634LC4 HMC635LC4	HMC-AUH312 HMC-AUH232 HMC-AUH249 HMC633LC4 HMC634LC4 HMC635LC4	HMC-AUH312 HMC633LC4 HMC634LC4 HMC635LC4
Connectorized Amplifier Modules	HMC-C004 HMC-C036 HMC-C037	HMC-C004 HMC-C036 HMC-C037	HMC-C004 HMC-C036 HMC-C037	HMC-C004 HMC-C036 HMC-C037	HMC-C004 HMC-C036 HMC-C037	
Broadband Time Delays	HMC856LC5 HMC910LC4B	HMC856LC5 HMC910LC4B	HMC856LC5 HMC910LC4B	HMC856LC5 HMC910LC4B	HMC856LC5 HMC910LC4B	HMC856LC5 HMC910LC4B
Attenuators: Analog	HMC346 HMC346G8 HMC346LP3E HMC346MS8GE	HMC346 HMC346G8 HMC346LP3E HMC346MS8GE	HMC346 HMC346G8 HMC346LP3E HMC346MS8GE	HMC346 HMC346G8 HMC346LP3E HMC346MS8GE	HMC346 HMC346LP3E	HMC-VVD104 HMC-VVD106
Attenuators: Digital	HMC424 HMC424LH5 HMC424LP3E HMC542LP4E HMC624LP4E HMC629LP4E	HMC424 HMC424LH5 HMC424LP3E HMC542LP4E HMC624LP4E HMC629LP4E	HMC424 HMC424LH5 HMC424LP3E HMC542LP4E HMC624LP4E HMC629LP4E	HMC424 HMC424LH5 HMC424LP3E HMC542LP4E HMC624LP4E HMC629LP4E	HMC424 HMC424LH5 HMC424LP3E	
Attenuators: Passive	HMC650 - HMC655 HMC656LP2E HMC657LP2E HMC658LP2E	HMC650 - HMC655 HMC656LP2E HMC657LP2E HMC658LP2E	HMC650 - HMC655 HMC656LP2E HMC657LP2E HMC658LP2E	HMC650 - HMC655 HMC656LP2E HMC657LP2E HMC658LP2E	HMC650 - HMC655 HMC656LP2E HMC657LP2E HMC658LP2E	HMC650 - HMC655 HMC656 HMC657 HMC658
Connectorized Attenuator Modules	HMC-C018 HMC-C053	HMC-C018 HMC-C053	HMC-C018 HMC-C053	HMC-C018 HMC-C053	HMC-C025 HMC-C053	



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Function	OC-1	OC-3	OC-12	OC-48	OC-192	OC-768
Frequency Dividers & Detectors	HMC394LP4E HMC439QS16GE HMC440QS16GE HMC492LP3E HMC493LP3E HMC494LP4E	HMC394LP4E HMC439QS16GE HMC440QS16GE HMC492LP3E HMC493LP3E HMC494LP4E	HMC394LP4E HMC439QS16GE HMC440QS16GE HMC492LP3E HMC493LP3E HMC494LP4E	HMC440QS16GE HMC492LP3E HMC493LP3E		
Connectorized Freq. Divider Modules	HMC-C040	HMC-C006 HMC-C007 HMC-C039 HMC-C040	HMC-C005 HMC-C006 HMC-C007 HMC-C039 HMC-C040	HMC-C005 HMC-C006		
Frequency Multipliers: Active	HMC573LC3B HMC814LC3B HMC576LC3B HMC448LC3B	HMC573LC3B HMC814LC3B HMC576LC3B HMC448LC3B	HMC573LC3B HMC814LC3B HMC576LC3B HMC448LC3B	HMC573LC3B HMC814LC3B HMC576LC3B HMC448LC3B	HMC448LC3B HMC576 HMC576LC3B HMC561LP3E HMC598 HMC-XDB112 HMC-XDH158	HMC579 HMC598
Connectorized Freq. Multiplier Modules					HMC-C032 HMC-C033 HMC-C034	
High Speed Digital Logic:						
1:2 Fanout Buffer	HMC720LC3C	HMC720LP3E	HMC724LC3C	HMC744LC3C	HMC850LC3C	HMC842LC4B
1:4 Fanout Buffer	HMC940LC4B	HMC940LC4B	HMC940LC4B	HMC940LC4B	HMC940LC4B	
2:1 Selector	HMC678LC3C	HMC728LC3C	HMC728LC3C	HMC748LC3C	HMC748LC3C	
XOR / XNOR	HMC721LP3E	HMC721LC3C	HMC725LC3C	HMC745LC3C	HMC851LC3C	HMC844LC4B
AND / NAND / OR / NOR	HMC672LC3C	HMC722LC3C	HMC722LP3E	HMC726LC3C	HMC746LC3C	HMC843LC4B
D-Type Flip-Flop	HMC723LC3C	HMC723LP3E	HMC727LC3C	HMC747LC3C	HMC853LC3C	HMC841LC4B
T Flip-Flop w/ Reset	HMC679LC3C	HMC679LC3C	HMC729LC3C	HMC729LC3C	HMC749LC3C	HMC749LC3C
NRZ-to-RZ Converter	HMC706LC3C	HMC706LC3C	HMC706LC3C	HMC706LC3C	HMC706LC3C	
Clock Divider	HMC791LC4B	HMC791LC4B	HMC791LC4B	HMC791LC4B	HMC791LC4B	HMC791LC4B
Connectorized High Speed Digital Logic Modules						HMC-C060 HMC-C061 HMC-C062 HMC-C064 HMC-C065
Connectorized Mixer Modules	HMC-C035	HMC-C035	HMC-C035	HMC-C035		
Mux & Demux	HMC854LC5 HMC855LC5	HMC854LC5 HMC855LC5	HMC854LC5 HMC855LC5	HMC854LC5 HMC855LC5	HMC854LC5 HMC855LC5	HMC847LC5 HMC848LC5
Phase Shifters: Analog				HMC247 HMC538LP4E	HMC247 HMC538LP4E	
Power Detectors	HMC611LP4E HMC662LP3E	HMC611LP4E HMC662LP3E	HMC611LP4E HMC662LP3E	HMC611LP4E HMC662LP3E	HMC611LP4E HMC662LP3E	HMC611LP4E HMC662LP3E
Connectorized Phase Shifter Modules					HMC-C010	
Switches: SPDT & SPST	HMC232G7 HMC232LP4E HMC347LP3E HMC547LP3E HMC646LP2E	HMC232G7 HMC232LP4E HMC347LP3E HMC547LP3E HMC646LP2E	HMC232G7 HMC232LP4E HMC347C8 HMC547LP3E HMC646LP2E	HMC232G8 HMC232LP4E HMC347C8 HMC347LP3E HMC547LP3E	HMC232C8 HMC232LP4E HMC347G8 HMC347LP3E HMC547LP3E	HMC-SDD112

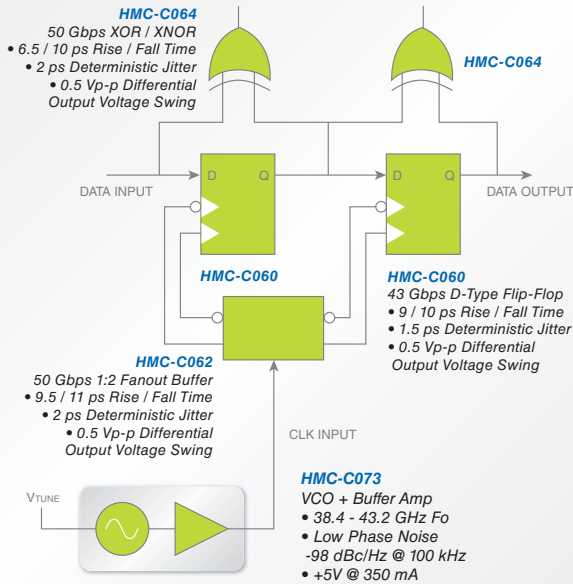


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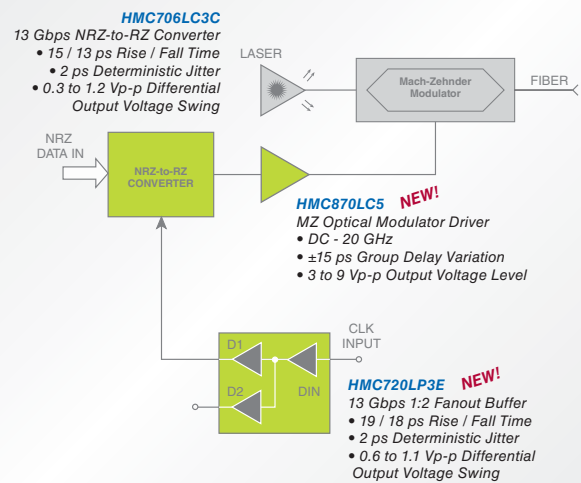
FIBER OPTICS

TYPICAL SERIAL FIBER OPTIC DATA TRANSMISSION SYSTEM

43 Gbps HOGGE PHASE DETECTOR FOR CLOCK & DATA RECOVERY



13 Gbps, NRZ-TO-RZ CONVERSION



Typical Fiber Optic applications are illustrated.
See the full product listing for alternatives to the select HMC products shown in each functional block.