

Positive Voltage						
Output Current	Type No.	Vout (V)	Topr (°C)	Status		
				TO-92M	TO-220AB	UPAK
100mA	HA178L02/02P/02UA	2.5	-20 – +75 /-20 – +85	○	—	○
	HA178L05/05P/05UA	5				
	HA178L56/56P/56UA	5.6				
	HA178L06/06P/06UA	6				
	HA178L08/08P/08UA	8				
	HA178L09/09P/09UA	9				
	HA178L10/10P/10UA	10				
	HA178L12/12P/12UA	12				
500mA	HA178M05/05P	5	-20 – +75	—	○	—
	HA178M06/06P	6				
	HA178M07/07P	7				
	HA178M08/08P	8				
	HA178M09/09P	9				
	HA178M12/12P	12				
	HA178M15/15P	15				
	HA178M18/18P	18				
1A	HA178M20/20P	20				
	HA178M24/24P	24				
	HA17805V/05VP	5	-20 – +75	—	○	—
	HA17806V/06VP	6				
	HA17807V/07VP	7				
	HA17808V/08VP	8				
	HA17812V/12VP	12				
	HA17815V/15VP	15				
	HA17818V/18VP	18				
	HA17824V/24VP	24				

Negative Voltage					
Output Current	Type No.	Vout (V)	Topr (°C)	Package	Status
100mA	HA179L Series	5	-20 – +85	TO-92M UPAK	○
		6			
		8			
		9			
		10			
		12			
		15			

注)
それぞれ通信工業用途品一般用途品があります。

Note)
Each device has versions for both telecommunication industrial and consumer use.

■出力電圧幅とグレード

Output Voltage Precision & Grade

Grade	HA178XX series HA178MXX	HA178LXX series	HA179LXX series
Standard	±4%	±8%	±4%
A Grade	—	±5%	—

注)
○: 量産中
通信工業用途品には形名の最後はPがついています。
それ以外は一般用途品です。

Note)
○: Mass production
Type No. with suffix "P" means telecommunication industrial use; others are consumer use.

Function	Type No.	Power dissipation (mW) typ	Conversion rate (MSPS)	Precision (LSB)	Topr (°C)	Status			Terminal	Remarks
						DIL	P	MSP		
A/D Converter	4 bit high speed	165	10	±1/2	-10 – +75	○			22	Open correct output
							○		18	
	6 bit high speed	250	20	±1/2	0 – +70	○			18A	3 state output with latch
							○		28	
	7 bit high speed	200	20	±1/2	0 – +70	○			30S	Output latch circuit
							○		28	
	8 bit high speed	250	20	±1/2	-20 – +85	○			28	HA19209 with latch
							○		30S	Wide operating temperature area
							○		44	
	9 bit high speed	100	15	±0.7	0 – +70			○	48	CMOS Vcc = 5 V & 3 – 5.25 V, RST
D/A Converter	10 bit high speed	115	15	±0.8	-10 – +85			○	48	CMOS Vcc = 4.75 V & 3.3 V, Low offset
	8 bit Dual slope	30	5.2ms	±1	-20 – +75	○			28	Double integration
	6 bit high speed	130	20			○			16	
							○		18	
		225	40	±1/2	0 – +70	○			18A	Vref built-in
							○		18A	
	8 bit high speed	300	30					○	56	3 ch CMOS + Vref, Triple Clock Inputs
								○	20N	Vref built-in
	10 bit high speed	225	40	±2	0 – +70	○			28	
							○		28	
	8 bit	135	150ns	±1/2	-20 – +75	○			16	Current output (differential)
								○	16	
	12 bit	97	250 ns typ	±1/2	-20 – +75	○			16	Current output (single)
								○	20N	Current output (differential)

注)
形名のあとに "NT" となっているものは、シュリンク形パッケージです。

Note)
"NT" attached – type No. means shrink package.