

TYPE NUMBER	MFR	APP	COMP	GBP MIN	SLEW RATE MIN	V <sub>S+</sub> MAX	V <sub>S-</sub> MAX	T <sub>rip</sub> MAX	A <sub>VOL</sub> MIN	V <sub>I0</sub> MAX	I <sub>B</sub> MAX	I <sub>O</sub> MAX	P <sub>TOT</sub> MAX	I <sub>OUT</sub> MIN	V <sub>OUT</sub> MIN	V <sub>ICM</sub> MAX	V <sub>IDF</sub> MAX	dV <sub>I0</sub> /dT MAX	P <sub>13</sub> MAX	I <sub>13</sub> MAX	CM RR MIN	PS RR MIN	R <sub>IN</sub> MIN
LM219F	MUG	DCP	INT			+18V	-18V	85C	80dB	4MV	500NA	75NA	500MWF			15V	5V			12MA			
LM219F	NAU	DCP	INT			+18V	-18V	85C	80dB	4MV	500NA	75NA	500MWF			15V	5V			12MA			
LM219H	NAU	DCP	INT			+18V	-18V	85C	80dB	4MV	500NA	75NA	500MWF			15V	5V			12MA			
LM219J	NAU	DCP	INT			+18V	-18V	85C	80dB	4MV	500NA	75NA	500MWF			15V	5V			12MA			
LM219K	MUG	DCP	INT			+18V	-18V	85C	80dB	4MV	500NA	75NA	500MWF			15V	5V			12MA			
LM221AD	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.4MV	10NA	0.5NA	500MWF			15V	15V	0.2uV/C		2MA	126dB	120dB	4M
LM221AF	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.4MV	10NA	0.5NA	500MWF			15V	15V	0.2uV/C		2MA	126dB	120dB	4M
LM221AH	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.4MV	10NA	0.5NA	500MWF			15V	15V	0.2uV/C		2MA	126dB	120dB	4M
LM221D	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.7MV	10NA	1NA	500MWF			15V	15V	1uV/C		2MA	120dB	120dB	4M
LM221F	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.7MV	10NA	1NA	500MWF			15V	15V	1uV/C		2MA	120dB	120dB	4M
LM221H	NAU	PIA	EXT			+20V	-20V	85C	24dB	0.7MV	10NA	1NA	500MWF			15V	15V	1uV/C		2MA	120dB	120dB	4M
LM224A	SJU	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	570MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224AD	NAU	QKQ	INT			+16V	-16V	85C	94dB	3MV	80NA	15NA	900MWF			16V	16V	20uV/C		2MA	70dB	65dB	
LM224AF	NAU	QKQ	INT			+16V	-16V	85C	94dB	3MV	80NA	15NA	800MWF			16V	16V	20uV/C		2MA	70dB	65dB	
LM224AJ	NAU	QKQ	INT			+16V	-16V	85C	94dB	3MV	80NA	15NA	900MWF			16V	16V	20uV/C		2MA	70dB	65dB	
LM224D	NAU	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	900MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224DDD	ING	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	900MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224F	MUG	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	900MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224F	NAU	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	800MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224J	NAU	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	900MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM224N(14)	MUG	QKQ	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	570MWF			16V	16V	35uV/C		2MA	70dB	65dB	
LM239A	SJU	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239AA	MUG	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239AD	NAU	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239ADD	ING	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239AF	MUG	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239AF	NAU	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	800MWF	6MA		18V	18V			2MA			
LM239AJ	NAU	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239AN(14)	MUG	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239D	NAU	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239DDD	ING	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239F	SJU	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239F	NAU	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	800MWF	6MA		18V	18V			2MA			
LM239J	NAU	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239L	TDG	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM239N(14)	MUG	QCP	EXT			+18V	-18V	85C	88dB	5MV	250NA	50NA	900MWF	6MA		18V	18V			2MA			
LM248D	NAU	QKQ	INT	3MHZ	0.2V/uS	+18V	-18V	85C	89dB	6MV	200NA	50NA	900MWF	5MA	12V	18V	36V			1MA	70dB	77dB	800K
LM248J	NAU	QKQ	INT	3MHZ	0.2V/uS	+18V	-18V	85C	88dB	6MV	200NA	50NA	900MWF	5MA	12V	18V	36V			1MA	70dB	77dB	800K
LM249D	NAU	QKQ	INT	1MHZ	0.5V/uS	+18V	-18V	85C	88dB	6MV	200NA	50NA	900MWF	5MA	12V	18V	36V			1MA	70dB	77dB	800K
LM249J	NAU	QKQ	INT	1MHZ	0.5V/uS	+18V	-18V	85C	88dB	6MV	200NA	50NA	900MWF	5MA	12V	18V	36V			1MA	70dB	77dB	800K
LM258AH	NAU	DGK	INT			+16V	-16V	85C	94dB	3MV	80NA	15NA	500MWF	10MA		16V	32V	15uV/C		3MA	70dB	65dB	
LM258H	NAU	DGK	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	500MWF	10MA		16V	32V	30uV/C		3MA	70dB	65dB	
LM258N(8)	MUG	DGK	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	500MWF	10MA		16V	32V	30uV/C		3MA	70dB	65dB	
LM258T	MUG	DGK	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	500MWF	10MA		16V	32V	30uV/C		3MA	70dB	65dB	
LM258V	MUG	DGK	INT			+16V	-16V	85C	94dB	5MV	150NA	30NA	500MWF	10MA		16V	32V	30uV/C		3MA	70dB	65dB	
LM260D	NAU	CPR	EXT			+8V	-8V	85C		5MV	20UA	3UA		6MA		4V	5V	40uV/C		32MA			5K
LM260H	NAU	CPR	EXT			+8V	-8V	85C		5MV	20UA	3UA		6MA		4V	5V	40uV/C		32MA			5K
LM260J-14	NAU	CPR	EXT			+8V	-8V	85C		5MV	20UA	3UA		6MA		4V	5V	40uV/C		32MA			5K
LM261D	NAU	CPR	EXT			+16V	-16V	85C	60dB	3MV	20UA	3UA	600MWF	18MA		6V	5V			18MA			8K
LM261H	NAU	CPR	EXT			+16V	-16V	85C	60dB	3MV	20UA	3UA	600MWF	18MA		6V	5V			18MA			8K
LM261J	NAU	CPR	EXT			+16V	-16V	85C	60dB	3MV	20UA	3UA	600MWF	18MA		6V	5V			18MA			8K
LM293AH	NAU	QCP	EXT			+18V	-18V	85C	94dB	2MV	250NA	50NA	900MWF	6MA		18V	36V			3MA			
LM293H	NAU	DCP	EXT			+18V	-18V	85C	94dB	5MV	250NA	50NA	900MWF	6MA		18V	36V			3MA			
LM293N(8)	MUG	DCP	EXT			+18V	-18V	85C	94dB	5MV	250NA	50NA	570MWF	6MA		18V	36V			3MA			
LM293T	MUG	DCP	EXT			+18V	-18V	85C	94dB	5MV	250NA	50NA	900MWF	6MA		18V	36V			3MA			
LM293V	MUG	DCP	EXT			+18V	-18V	85C	94dB	5MV	250NA	50NA	570MWF	6MA		18V	36V			3MA			
LM301AA	MUG	GPU	EXT			+18V	-18V	70C	88dB	7.5MV	250NA	50NA	500MWF	5MA	12V	15V	30V	30uV/C		3MA	70dB	70dB	500K
LM301AD	MUG	GPU	EXT			+18V	-18V	70C	88dB	7.5MV	250NA	50NA	500MWF	5MA	12V	15V	30V	30uV/C		3MA	70dB	70dB	500K
LM301AF	SJU	GPU	EXT			+18V	-18V	70C	88dB	7.5MV	250NA	50NA	500MWF	5MA	12V	15V	30V	30uV/C			70dB	70dB	500K
LM301AH	NAU	GPU	EXT			+18V	-18V	70C	88dB	7.5MV	250NA	50NA	500MWF	5MA	12V	15V	30V	30uV/C		3MA	70dB	70dB	500K

For detailed explanations of column heading notations, see App. A.

Also for ready references the more important abbreviations used in the column headings are listed below:

LEFT HAND PAGE

APP = application (codes at APP.E.)  
 CMRR = common mode rejection ratio  
 CMP = compensation (frequency)  
 $dV_{io}/dT$  = input offset voltage temperature drift  
 GBP = gain bandwidth product  
 $I_B$  = input bias current  
 $I_{in}$  = input bias offset current  
 $I_Q$  = quiescent supply current  
 MFR = manufacturer (codes at App. C.)  
 $P_{ti}$  = quiescent power consumer  
 PSRR = power supply rejection ratio  
 $V_{cm}$  = common mode input voltage rating  
 $V_{CIP}$  = differential input voltage rating  
 $V_{io}$  = input offset voltage  
 $V_S$  = dc supply voltage

RIGHT HAND PAGE

Lead out coding summary (details at APP.G.) for different cases (APP.F.)

A = gain adjust  
 B = bias adjust  
 C = case  
 E- = inverting input  
 E+ = non-inverting input  
 F.F\* = input frequency compensation  
 G = ground  
 J = high level input  
 K = output, open collector  
 L = output, open emitter  
 M = metal case  
 N = not connected  
 O = special terminal  
 R,R\* = outputs  
 S = strobe  
 T,I\* = offset balance  
 V+ = +ve dc supply  
 V- = -ve dc supply  
 W = guard ring  
 X = blank position, no lead  
 ++ = +ve supplementary dc supply  
 -- = -ve supplementary dc supply  
 ⚡\* = output frequency compensation

CASE (APP.F.)	LD 1	LD 2	LD 3	LD 4	LD 5	LD 6	LD 7	LD 8	LD 9	LD 10	LD 11	LD 12	LD 13	LD 14	LD 15	LD 16	EUROPE SUBSTITUTE	USA SUBSTITUTE	IS	TYPE NUMBER
DIL-14/1C	N	N	G1	E+1	E-1	V-	R2	G2	E+2	E-2	V+	R1	N	N			TDE0119DP	LM219J	0	LM219F
FLP-10/3G	R1	G1	E+1	E-1	V-	R2	G2	E+2	E-2	V+							TDE0119CM	LM119F	0	LM219F
TOS-10/1M	R1	G1	E+1	E-1	V-	R2	G2	E+2	E-2	V+							TDE0119CM	LM119H	0	LM219H
DIL-14/1C	N	N	G1	E+1	E-1	V-	R2	G2	E+2	E-2	V+	R1	N	N			TDE0119DP	LM219D	0	LM219J
TOS-10/1M	R1	G1	E+1	E-1	V-	R2	G2	E+2	E-2	V+							TDE0119CM	LM219H	0	LM219K
DIL-14/1M	N	R	W	E-	E+	W*	V-	N	T	T*	V+	R*	N	N				LM121AD	0	LM221AD
FLP-10/3G	R	W	E-	E+	W*	V-	T*	V+	R*									LM121AF	0	LM221AF
TOS-8/1M	R	E-	E+	V-	T*	V+	R*											LM121AH	0	LM221AH
DIL-14/1M	N	R	W	E-	E+	W*	V-	N	T	T*	V+	R*	N	N				LM221AD	0	LM221D
FLP-10/3G	R	W	E-	E+	W*	V-	T*	V+	R*									LM221AF	0	LM221F
TOS-8/1M	R	E-	E+	V-	T*	V+	R*											LM121H	0	LM221H
DIL-14/1P	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4			LM224D	LM224J	0	LM224A
DIL-14/1M	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM124AD	0	LM224AD
FLP-14/3G	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM124AF	0	LM224AF
DIL-14/1C	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM124AD	0	LM224AJ
DIL-14/1M	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				SG224J	0	LM224D
DIL-14/1M	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				SG224J	0	LM224DDD
DIL-14/1C	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM224J	0	LM224F
FLP-14/3G	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM124F	0	LM224F
DIL-14/1C	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				SG224J	0	LM224J
DIL-14/1P	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	G	E+4	E-4	R4				LM224D	0	LM224N(14)
DIL-14/1P	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239A
DIL-14/1P	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AA
DIL-14/1M	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AD
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239ADD
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AF
FLP-14/3G	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AF
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AJ
DIL-14/1P	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239AL	0	LM239AN(14)
DIL-14/1M	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239D
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239DDD
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239F
FLP-14/3G	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239F
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239J
DIL-14/1C	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239L
DIL-14/1P	R2	R1	V+	E-1	E+1	E-2	E+2	E+3	E-3	E-4	E+4	G	R4	R3				MLM239L	0	LM239N(14)
DIL-14/1M	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	V-	E+4	E-4	R4				LM249D	0	LM248D
DIL-14/1C	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	V-	E+4	E-4	R4				LM249J	0	LM248J
DIL-14/1M	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	V-	E+4	E-4	R4				LM248D	0	LM249D
DIL-14/1C	R1	E-1	E+1	V+	E+2	E-2	R2	R3	E-3	E+3	V-	E+4	E-4	R4				LM248D	0	LM249J
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM158AH	0	LM258AH
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										MLM158G	0	LM258H
DIL-8/1P	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM258V	0	LM258N(8)
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										MLM158G	0	LM258T
DIL-8/1P	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM258N8	0	LM258V
DIL-14/1M	N	N	N	E-	E+	V-	N	N	G	R	R*	V+	N	N				UA760DM	0	LM260D
TOS-8/1M	N	E-	E+	V-	G	R	R*	V+										LM160H	0	LM260H
DIL-14/1C	N	N	N	E-	E+	V-	N	N	G	R	R*	V+	N	N				LM160D	0	LM260J-14
DIL-14/1M	V+	N	N	E-	E-	V-	N	S2	R	G	R*	N	S1	++				LM161D	0	LM261D
TOS-10/1M	E+	E-	V-	S2	R	G	R*	S1	++	V+								LM161H	0	LM261H
DIL-14/1C	V+	N	E+	E-	N	V-	N	S2	R	G	R*	N	S1	++				LM161J	0	LM261J
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM193AH	0	LM293AH
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM193H	0	LM293H
DIL-8/1P	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM2903N	0	LM293N(8)
TOS-8/1M	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM293H	0	LM293T
DIL-8/1P	R1	E-1	E+1	G	E+2	E-2	R2	V+										LM2903N	0	LM293V
DIL-14/1P	N	N	FT	E-	E+	V-	N	N	T*	R	V+	F*	N	N				UA301AD	0	LM301AA
MDL-8/2P	FT	E-	E+	V-	T*	R	V+	F*										TD00301D	0	LM301AD
DIL-14/1C	N	N	FT	E-	E+	V-	N	N	T*	R	V+	F*	N	N				UA301AD	0	LM301AF
TOS-8/1M	FT	E-	E+	V-M	T*	R	V+	F*										SFC2301AH	0	LM301AH

# Appendix A

# Explanatory notes to tabulations

The general layout plan of the information in the tables of this compendium should be immediately evident from the data tabulation explanatory chart set out overleaf.

Supporting Appendices with additional information are:

- App. B Glossary of *Opamp Terms*
- App. C Tabulation *Codes for Manufacturers*
- App. D IC Manufacturers' *House Numbers*
- App. E Tabulation *Codes for Applications*
- App. F *Case Outline and Leadout Diagrams*
- App. G Codes for *Leadout Connections*

Unit symbols used in the tables are:

- A = amperes
- C = °centigrade
- dB = decibels
- G = gigaohms (megohms  $\times 10^3$ )
- GHZ = gigahertz (megahertz  $\times 10^3$ )
- K = kilohms
- KHZ = kilohertz
- M = megohms
- MA = milliamperes, mA
- MAX = maximum
- MHZ = megahertz
- MIN = minimum
- MV = millivolts
- MWC = milliwatts, case at 25C
- MWF = milliwatts, free air at 25C
- MWH = milliwatts, heat sink, 25C
- NA = nanoamps (microamps  $\times 10^{-3}$ )
- NV = nanovolts (microvolts  $\times 10^{-3}$ )
- PA = picoamps (microamps  $\times 10^{-12}$ )
- R = ohms
- T = teraohms (megohms  $\times 10^6$ )
- V = volts
- WC = watts, case at 25C
- WF = watts, free air at 25C
- WH = watts, heatsink, 25C
- $\mu$ A = microamps
- $\mu$ S = microseconds
- $\mu$ V = microvolts
- $\mu$ W = microwatts
- $\mu$ WF = microwatts, free air at 25C

Where a unit symbol appears in the middle of a value, it indicates the position of the decimal point, e.g. 3K3 = 3.3K.

Appendix A

TYPE NUMBER	MFR	APP	CMP	GBP MIN	SLEW RATE MIN	V <sub>S+</sub> MAX	V <sub>S-</sub> MAX	T <sub>OP</sub> MAX	A <sub>VOL</sub> MIN	V <sub>IO</sub> MAX	I <sub>B</sub> MAX	I <sub>IO</sub> MAX	P <sub>TOT</sub> MAX	I <sub>OUT</sub> MIN	V <sub>OUT</sub> MIN	V <sub>ICM</sub> MAX	V <sub>IDF</sub> MAX	dV <sub>IO</sub> /dT MAX	P <sub>O</sub> MAX	I <sub>O</sub> MAX	CMRR MIN	PSRR MIN	R <sub>IN</sub> MIN
(EXAMPLE) LH0022CH	NAU	FET	INT	.3MHZ	1V/US	+22V	-22V	85C	97dB	6MV	25pA	5pA	500MWF	10MA	10V	15V	30V	15uV/C	85MW	3MA	70dB	70dB	0.1T
<p>TYPE No. NUMERO-ALPHABETIC LISTING</p> <p>MFR = MANUFACTURER CODED AS APP. C</p> <p>APP = APPLICATION CODED AS APP. E</p> <p>CMP = FREQUENCY COMPENSATION WITH INT = INTERNAL EXT = EXTERNAL</p> <p>GBP MIN = UNITY GAIN BANDWIDTH PRODUCT, MIN.; IN KHZ, MHZ, or GHZ</p> <p>SLEW RATE, MIN. IN VOLTS PER MICROSECOND. V/μS</p> <p>V<sub>S+</sub> MAX = MAX. PERMISSIBLE +VE DC SUPPLY VOLTAGE IN VOLTS, V</p> <p>V<sub>S-</sub> MAX = MAX PERMISSIBLE -VE DC SUPPLY VOLTAGE IN VOLTS, V</p> <p>T<sub>OP</sub> MAX = MAX. PERMISSIBLE OPERATIONAL AMBIENT TEMPERATURE IN °C.</p> <p>A<sub>VOL</sub> MIN = MIN. OPEN-LOOP VOLTAGE GAIN IN DB</p> <p>V<sub>IO</sub> MAX = MAX INPUT OFFSET VOLTAGE AT 25°C IN MV or μV.</p> <p>I<sub>B</sub> MAX = MAX. INPUT BIAS CURRENT AT 25°C IN MA, μA, nA or pA</p> <p>P<sub>TOT</sub> MAX = MAX. PERMISSIBLE POWER DISSIPATION IN W, mW, μW WITH F = FREE AIR 25°C, C = CASE 25°C, H = HEATSINK 25°C.</p> <p>I<sub>IO</sub> MAX = MAX. INPUT OFFSET CURRENT AT 25°C IN MA, μA, nA, OR pA</p> <p>I<sub>O</sub> MAX = MAX. QUIESCENT (NO SIGNAL, NO LOAD) CURRENT CONSUMPTION IN MA</p> <p>P<sub>O</sub> MAX = MAX. QUIESCENT (NO SIGNAL, NO LOAD) POWER CONSUMPTION IN MW</p> <p>dV<sub>IO</sub>/dT MAX = MAX. INPUT OFFSET VOLTAGE TEMPERATURE DRIFT IN μV/C OR MV/C</p> <p>V<sub>IDF</sub> MAX = MAX. PERMISSIBLE DIFFERENTIAL INPUT VOLTAGE IN V.</p> <p>V<sub>ICM</sub> MAX = MAX. PERMISSIBLE COMMON-MODE INPUT VOLTAGE IN VOLTS, V</p> <p>V<sub>OUT</sub> MIN = GUARANTEED MIN. OUTPUT VOLTAGE, PEAK VALUE, IN VOLTS, V</p> <p>I<sub>OUT</sub> MIN = GUARANTEED MINIMUM OUTPUT CURRENT, PEAK VALUE, IN MA OR μA.</p> <p>R<sub>IN</sub> MIN = MIN IN-PUT RESISTANCE</p> <p>PSRR MIN = MIN. POWER SUPPLY REJECTION RATIO IN DB</p> <p>CMRR MIN = MIN. COMMON MODE REJECTION RATIO IN DB</p>																							
<p>(NOTE: FOR FURTHER EXPLANATION OF SPECIAL TERMS SEE APP. B)</p>											<p>* R<sub>IN</sub> EXPRESSED AS OHMS (R), KILOHMS (K), MEGOHMS (M), GIGAOHMS (G) OR TERAHMS (T)</p>												

## Appendix A

### LEFT HAND PAGE

For detailed explanations of column heading notations, see App. A.

Also for ready references the more important abbreviations used in the column headings are listed below:

- APP = application  
(codes at APP.E.)
- CMRR = common mode rejection ratio
- CMP = compensation  
(frequency)
- $dV_{io}/dT$  = input offset voltage temperature drift
- GBP = gain bandwidth product
- $I_b$  = input bias current
- $I_{io}$  = input bias offset current
- $I_Q$  = quiescent supply current
- MFR = manufacturer  
(codes at App.C.)
- $P_Q$  = quiescent power consumer
- PSRR = power supply rejection ratio
- $V_{icm}$  = common mode input voltage rating
- $V_{idc}$  = differential input voltage rating
- $V_{io}$  = input offset voltage
- $V_S$  = dc supply voltage

### RIGHT HAND PAGE

Lead out coding summary (details at APP.G.) for different cases (APP.F.)

- A = gain adjust
- B = bias adjust
- C = case
- E- = inverting input
- E+ = non-inverting input
- F,F\* = input frequency compensation
- G = ground
- J = high level input
- K = output, open collector
- L = output, open emitter
- M = metal case
- N = not connected
- Q = special terminal
- R,R\* = outputs
- S = strobe
- T,T\* = offset balance
- V+ = +ve dc supply
- V- = -ve dc supply
- W = guard ring
- X = blank position, no lead
- + + = +ve supplementary dc supply
- - = -ve supplementary dc supply
- $\phi, \phi^*$  = output frequency compensation

CASE (APP. F.)	LD 1	LD 2	LD 3	LD 4	LD 5	LD 6	LD 7	LD 8	LD 9	LD 10	LD 11	LD 12	LD 13	LD 14	LD 15	LD 16	EUROPE SUBSTITUTION	USA SUBSTITUTION	ISS	TYPE NUMBER	
T05-8/1M	T	E-	E+	V-	T*	R	V+	N	.	.	.	.	.	.	.	.	.	.	LH0022H	0	LH0022CH

CASE = PACKAGE OF DIFFERENT TYPES CODED ACCORDING TO APP. F - FIRST NUMBER INDICATES NUMBER OF LEAD POSITIONS EG DIL-14 = 14 LEAD DUAL-IN-LINE PACKAGE

LD1, LD2, ETC = LEAD NUMBERS WITH CONNECTIONS ACCORDING TO PAGE FOOTNOTE OR APP. G.

EURO SUBSTITUTION = PROELECTRON STANDARD OR OTHER TYPE AVAILABLE IN EUROPE

TYPE No. REPEATED ON R.H. MARGIN

ISS = ISSUE NUMBER OF DATA ENTRY

USA SUBSTITUTION = SUGGESTED ALTERNATIVE AVAILABLE IN USA.

# Appendix C

## Tabulation Codes for Manufacturers

<b>ADU</b>	<b>Advanced Micro Devices Inc.,</b> 901 Thompson Pl., Sunnyvale, CA 94086, USA	<b>ITU</b>	DA14 5HT, UK <b>ITT Semiconductors</b> 74 Commerce Way, Woburn, MA, 01801, USA
<b>ANG</b>	<b>Analog Devices Ltd,</b> Central Ave., East Molesey, KT8 9BR, Surrey, UK	<b>MNG</b>	<b>Mitsubishi Shoji Kaisha Ltd,</b> Bow Bells House, Bread St., London, EC4, UK
<b>ANU</b>	<b>Analog Devices Inc.,</b> P.O. Box 280, Norwood, Mass., 02062	<b>MNJ</b>	<b>Mitsubishi Electric Corp.,</b> 2-12 Marunouchi, Chiyoda-ku, Tokyo, Japan
<b>BLG</b>	<b>Bell &amp; Howell Ltd,</b> Lennox Road, Basingstoke, Hants, UK	<b>MTG</b>	<b>Motorola Ltd</b> (Semiconductor Products Div.), York House, Empire Way, Wembley, Middlesex, HA9 0PR, UK
<b>BLU</b>	<b>Bell &amp; Howell</b> (Control Products Divison), 706 Bostwick Ave, Bridgeport, Conn. 06605, USA	<b>MTU</b>	<b>Motorola Semiconductor Products Inc.,</b> 5005 E. McDowell Road, Phoenix, AZ, 85008, USA
<b>BUG</b>	<b>Burr-Brown International Ltd,</b> 17 Exchange Rd, Watford, WQD1 7EB, Herts., UK	<b>MUG</b>	<b>Mullard Ltd,</b> Mullard House, Torrington Place, London, WC1E 7HD, UK
<b>BUU</b>	<b>Burr-Brown Research Corp.,</b> P.O. Box 11400, Tucson, AZ, 85734, USA	<b>NAG</b>	<b>National Semiconductor (UK) Ltd,</b> Harpur Centre, Bedford, MK40 3LF, UK
<b>CMG</b>	<b>Computing Techniques Ltd,</b> Brookers Rd, Billingshurst, Sussex, RH14 9RZ, UK	<b>NAU</b>	<b>National Semiconductor Corp.,</b> 2900 Semiconductor Drive, Santa Clara, CA, 95051, USA
<b>DAG</b>	<b>Datel UK Ltd,</b> Stephenson Close, Portway Ind. Estate, Andover, Hants, UK	<b>NIJ</b>	<b>Nippon Electric Co. Ltd,</b> 1753 Shimonumabe, Nakahara-ku, Kawasaki, Japan
<b>DAU</b>	<b>Datel Systems Inc.,</b> 1020 Turnpike St., Canton, MA 02021, USA	<b>OAU</b>	<b>Opamp Labs Inc.,</b> 1033 N. Sycamore Ave., Los Angeles, CA 90038, USA
<b>FAG</b>	<b>Fairchild Camera &amp; Instrument (UK) Ltd,</b> 230 High St., Potters Bar, Herts., UK	<b>OBS</b>	Obsolete – no longer commercially available.
<b>FAU</b>	<b>Fairchild Semiconductor</b> 464 Ellis St., Mountain View, CA 94042, USA	<b>OTU</b>	<b>Optical Electronics Inc.,</b> P.O. Box 11140, Tucson, AZ, 85734, USA
<b>FEG</b>	<b>Ferranti Ltd,</b> (Electronic Department), Gem Mill, Chadderton, Oldham, Lancs., OL9 8NP, UK	<b>PLG</b>	<b>Plessey Semiconductors,</b> Cheney Manor, Swindon, Wilts., SN2 2QW, UK
<b>FUJ</b>	<b>Fujitsu Ltd,</b> 1015 Kamikodanaka, Kawasaki, Japan	<b>PRG</b>	<b>Precision Monolithics</b> (Bourns Trimpot Ltd) 17/27 High St., Hounslow, Middlesex, UK
<b>HAG</b>	<b>Harris Semiconductor (Memec) Ltd,</b> The Firs, Whitchurch, Nr. Aylesbury, Bucks., HP22 4JU, UK	<b>PRU</b>	<b>Precision Monolithics (Bourns) Inc.,</b> 1500 Space Park Drive, Santa Clara, CA, 95050, USA
<b>HAU</b>	<b>Harris Semiconductor</b> P.O. Box 883, Melbourne, FL, 32901, USA	<b>RAG</b>	<b>Raytheon Semiconductor</b> The Pinnacles, Harlow, Essex, CM19 5BB, UK
<b>HIJ</b>	<b>Hitachi Ltd</b> (Semiconductor and IC Div.), 1450 Josuihonimachi, Kodaira City, Tokyo, Japan	<b>RAU</b>	<b>Raytheon Semiconductor,</b> 350 Ellis Street, Mountain View, CA, 94042, USA
<b>ING</b>	<b>Intersil Inc.,</b> 8 Tessa Rd, Richfield Trading Estate, Reading, Berks., UK	<b>RCG</b>	<b>RCA (Great Britain) Ltd,</b> Lincoln Way, Windmill Road, Sunbury-on- Thames, Middlesex, UK
<b>INU</b>	<b>Intersil Inc.,</b> 10900 N. Tantau Ave, Cupertino, CA, 95014, USA	<b>RCU</b>	<b>RCA Solid State Division</b> Route 202, Somerville, NJ, 08876, USA
<b>ITG</b>	<b>ITT Semiconductors</b> Maidstone Rd, Fooks Cray, Sidcup, Kent,	<b>SAJ</b>	<b>Sanken Electric Co. Ltd,</b> 1-22-8 Nishi-Ikebukuro, Toshima-Ku, Tokyo, Japan

Appendix C

<b>SGG</b>	<b>SGS-ATES (UK) Ltd,</b> Planar House, Walton Street, Aylesbury, Bucks., UK	<b>SPU</b>	<b>Sprague Electric Company</b> (Semiconductor Div.), 115 Northeast Cutoff, Worcester, MA, 01606, USA
<b>SGI</b>	<b>SGS-ATES Componenti Spa,</b> Via Olivetti, 2 Agrate Brianza, 20041, Milan, Italy	<b>TDG</b>	<b>Teledyne Semiconductor,</b> Heathrow House, Bath Road, Cranford, Hounslow, Middlesex, TW5 9QP, UK
<b>SHG</b>	<b>Shindengen Hyokuto Boeki Haisha Ltd,</b> St. Alphage House, Fore St., London, EC2Y 5DA, UK	<b>TDU</b>	<b>Teledyne (Amelco) Semiconductor,</b> 1300 Terra Bella Ave, Mountain View, CA, 94032, USA
<b>SHJ</b>	<b>Shindengen Electric Mfg Co., Ltd,</b> New Ohtemachi Bldng, 2-1, 2-chome, Ohtemachi, Chiyoda-ku, Tokyo, Japan	<b>TEB</b>	<b>Teledyne-Philbrick,</b> Heathrow House, Bath Road, Cranford, Hounslow, Middlesex, TW5 9QP, UK
<b>SIG</b>	<b>Siemens Ltd,</b> Great West Road, Brentford, Middlesex, TW8 9DG, UK	<b>TEU</b>	<b>Teledyne-Philbrick,</b> Allied Drive at Route 128, Dedham, MA, 02026, USA
<b>SIW</b>	<b>Siemens Aktiengesellschaft,</b> Richard-Strauss-Strasse 76, D-8000 Munchen 2, Postfach 202109, W. Germany	<b>TGG</b>	<b>Texas Instruments Ltd,</b> Manton Lane, Bedford, UK
<b>SJG</b>	<b>Signetics International Corporation</b> Yeoman House, 63 Croydon Rd, London, SE20, UK	<b>TGU</b>	<b>Texas Instruments Inc.</b> (Components Group), P.O. Box 5012, Dallas, Texas, 75222, USA
<b>SJU</b>	<b>Signetics Corp.,</b> 811 East Arques Ave, Sunnydale, CA. 94086, USA	<b>THF</b>	<b>Thomson-CSF (Sescosem),</b> 50 Rue Jean Pierre Timbaud, BP 120, 92403, Courbevoie, France
<b>SKU</b>	<b>Silicon General Inc.,</b> 7382 Bolsa Avenue, Westminster, CA, 92683, USA	<b>THG</b>	<b>Thomson-CSF (UK) Ltd,</b> Ringway House, Bell Rd, Daneshill, Basingstoke, Hants., RG24 0QG, UK.
<b>SLG</b>	<b>Siliconix Ltd,</b> 30A High St., Thatcham, Newbury, Berks., RG13 4JG, UK	<b>TKJ</b>	<b>Tokyo Sanyo Electric Co. Ltd</b> (Semiconductor Div.), Oizumachi, Oragun, Gumma, Japan
<b>SLU</b>	<b>Siliconix Incorporated,</b> 2201 Laurelwood Road, Santa Clara, CA, 95054, USA	<b>TOG</b>	<b>Toshiba (UK) Ltd,</b> Toshiba House, Great South West Rd, Feltham, Middlesex, UK
<b>SOJ</b>	<b>Sony Semiconductor Corp.,</b> 14-1, Asa hi-sho 4, Atsuigi-shi, Kanagawa-ken, 243, Japan	<b>TOJ</b>	<b>Toshiba (Tokyo Shibaura) Electric Co.,</b> 2-1, 5-chome, Ginza Chuo-ku, Tokyo, Japan
<b>SPG</b>	<b>Sprague Electric (UK) Ltd,</b> 159 High St., Yiewsley, W. Drayton, Middlesex, UB7 7RY, UK	<b>TRU</b>	<b>Transitron Electronic Corp.,</b> 168 Albion St., Wakefield, MA, 01881, USA
		<b>ZEU</b>	<b>Zeltex Inc.,</b> 940 Detroit Ave, Concord, CA, 94518, USA

# Appendix D

## IC Manufacturers'

### House Numbers

(General Note: Manufacturers often adopt their own 'in-house' serial numbering for their ICs. Listed below are the initial letters of numerical series used by different manufacturers.)

<b>AD</b>	Analog Devices	<b>OP</b>	Precision Monolithics
<b>ADO</b>	Analog Devices	<b>P</b>	Teledyne-Philbrick
<b>AM</b>	Advanced Micro Devices; Datel	<b>PF</b>	Teledyne-Philbrick
<b>AMD</b>	Advanced Micro Devices	<b>PG</b>	General Instruments (obs.)
<b>AMLM</b>	Advanced Micro Devices	<b>PP</b>	Teledyne-Philbrick
<b>AMSSS</b>	Advanced Micro Devices	<b>RA</b>	Radiation (now Harris)
<b>AMU</b>	Advanced Micro Devices	<b>RC</b>	Raytheon
<b>C</b>	Bell & Howell	<b>RL</b>	Raytheon
<b>CA</b>	RCA	<b>RM</b>	Raytheon
<b>CIA</b>	Teledyne-Philbrick	<b>RSN</b>	Raytheon
<b>CMP</b>	Precision Monolithics	<b>RV</b>	Raytheon
<b>CN</b>	Ferranti	<b>S</b>	Signetics
<b>DA</b>	Teledyne-Philbrick	<b>SA</b>	Teledyne-Philbrick
<b>EP</b>	Teledyne-Philbrick	<b>SE</b>	Signetics; Mullard
<b>ESL</b>	Teledyne-Philbrick	<b>SFC</b>	Thomson-CSF
<b>FSL</b>	Teledyne-Philbrick	<b>SG</b>	Silicon General
<b>FSS</b>	Ferranti	<b>SH</b>	Fairchild
<b>HA</b>	Harris	<b>SK</b>	RCA
<b>HEPC</b>	Motorola	<b>SL</b>	Plessey; Teledyne-Philbrick
<b>ICH</b>	Intersil	<b>SN</b>	Texas Instruments
<b>ICL</b>	Intersil	<b>SP</b>	Teledyne-Philbrick
<b>JM</b>	Fairchild	<b>SQ</b>	Teledyne-Philbrick
<b>JSF</b>	Thomson-CSF	<b>SSS</b>	Precision Monolithics
<b>L</b>	Analog Devices; SGS-ATES	<b>SU</b>	Signetics; Mullard
<b>LA</b>	Teledyne-Philbrick	<b>T</b>	Teledyne-Philbrick Transitron
<b>LF</b>	National Semiconductor	<b>TA</b>	AEG-Telefunken
<b>LH</b>	National Semiconductor	<b>TAA</b>	Proelectron Standard
<b>LM</b>	National Semiconductor	<b>TBA</b>	Proelectron Standard
<b>M</b>	Mitsubishi	<b>TBB</b>	Proelectron Standard
<b>MC</b>	Motorola Semiconductors	<b>TBC</b>	Proelectron Standard
<b>MCC</b>	Motorola Semiconductors	<b>TBE</b>	Proelectron Standard
<b>MCCF</b>	Motorola Semiconductors	<b>TCA</b>	Proelectron Standard
<b>MCE</b>	Motorola Semiconductors	<b>TDA</b>	Proelectron Standard
<b>MCH</b>	Motorola Semiconductors	<b>TDB</b>	Proelectron Standard
<b>MIC</b>	ITT Semiconductors	<b>TDC</b>	Proelectron Standard
<b>MLF</b>	Motorola; Teledyne-Philbrick	<b>TDE</b>	Proelectron Standard
<b>MLM</b>	Motorola Semiconductors	<b>TL</b>	AEG-Telefunken
<b>MLMC</b>	Motorola Semiconductors	<b>TOA</b>	Transitron
<b>MONO-OP</b>	Precision Monolithics	<b>TSC</b>	Transitron
<b>N</b>	Signetics; Mullard	<b>U</b>	Fairchild
<b>NC</b>	General Instruments (obs.)	<b>ULN</b>	Sprague
<b>NE</b>	Signetics; Mullard	<b>ULS</b>	Sprague
<b>NH</b>	National Semiconductor	<b>USL</b>	Teledyne-Philbrick
		<b>ZA</b>	Zeltex
		<b>ZEL</b>	Zeltex
		<b>ZLD</b>	Ferranti
		<b>ZN</b>	Ferranti
		<b>μA</b>	Fairchild



# Appendix E

## Tabulation Codes for Applications

<b>BDO</b>	Balanced differential-output amplifier	<b>PAA</b>	Parametric amplifier
<b>CDA</b>	Current-difference amplifier	<b>PIA</b>	Precision instrumentation amplifier
<b>CHP</b>	Chopper-stabilized amplifier	<b>PRA</b>	Programmable opamp
<b>CPR</b>	DC comparator	<b>QCD</b>	Quad current-difference amplifier
<b>DBD</b>	Dual balanced differential-output amplifier	<b>QCP</b>	Quad comparator
<b>DCP</b>	Dual Comparator	<b>QFE</b>	Quad fet-input opamp
<b>DFE</b>	Dual fet-input opamp	<b>Q GK</b>	Quad general-purpose, internally-compensated, opamp
<b>DGK</b>	Dual general purpose opamp	<b>QGU</b>	Quad general-purpose, uncompensated, opamp
<b>DGU</b>	Dual general-purpose uncompensated opamp	<b>QLQ</b>	Quad low-quiescent-power opamp
<b>DHS</b>	Dual high-slew-rate opamp	<b>QPI</b>	Quad precision instrumentation amplifier
<b>DLN</b>	Dual low-noise opamp	<b>QPR</b>	Quad programmable opamp
<b>DPI</b>	Dual precision instrumentation amplifier	<b>QSB</b>	Quad super-beta opamp
<b>DPR</b>	Dual programmable opamp	<b>SBA</b>	Super-beta opamp
<b>DSB</b>	Dual super-beta opamp	<b>TCP</b>	Triple comparator
<b>FET</b>	Fet-input opamp	<b>TFE</b>	Triple fet-input opamp
<b>GPK</b>	General-purpose, internally-compensated, opamp	<b>TGK</b>	Triple general-purpose, internally compensated, opamp
<b>GPU</b>	General-purpose, uncompensated, opamp	<b>TGU</b>	Triple general-purpose, uncompensated, opamp
<b>HCO</b>	High current output opamp	<b>TLN</b>	Triple low-noise opamp
<b>HIR</b>	High input resistance opamp	<b>TLP</b>	Triple low-quiescent-power opamp
<b>HPO</b>	High power output opamp	<b>TOT</b>	Triple operational transconductance amplifier
<b>HSR</b>	High slew rate opamp	<b>TPI</b>	Triple precision instrumentation amplifier
<b>HVO</b>	High voltage output opamp	<b>TPR</b>	Triple programmable opamp
<b>LBC</b>	Low input bias current opamp	<b>TSB</b>	Triple super-beta opamp
<b>LCD</b>	Low input offset current drift opamp	<b>VFA</b>	Voltage-follower amplifier
<b>LNA</b>	Low noise opamp	<b>WBA</b>	Wide-band opamp
<b>LOC</b>	Low input offset current opamp	<b>XHG</b>	Extra-high-gain opamp
<b>LOV</b>	Low input offset voltage opamp	<b>XLP</b>	Extra-low quiescent power opamp
<b>LQP</b>	Low quiescent power opamp	<b>XSR</b>	Extra-high slew rate opamp
<b>LVD</b>	Low input offset voltage drift opamp	<b>XWB</b>	Extra-wide-band opamp
<b>MWB</b>	Medium-wideband opamp		
<b>OTA</b>	Operational transconductance amplifier		

# Appendix G

## Codes for Leadout Connections

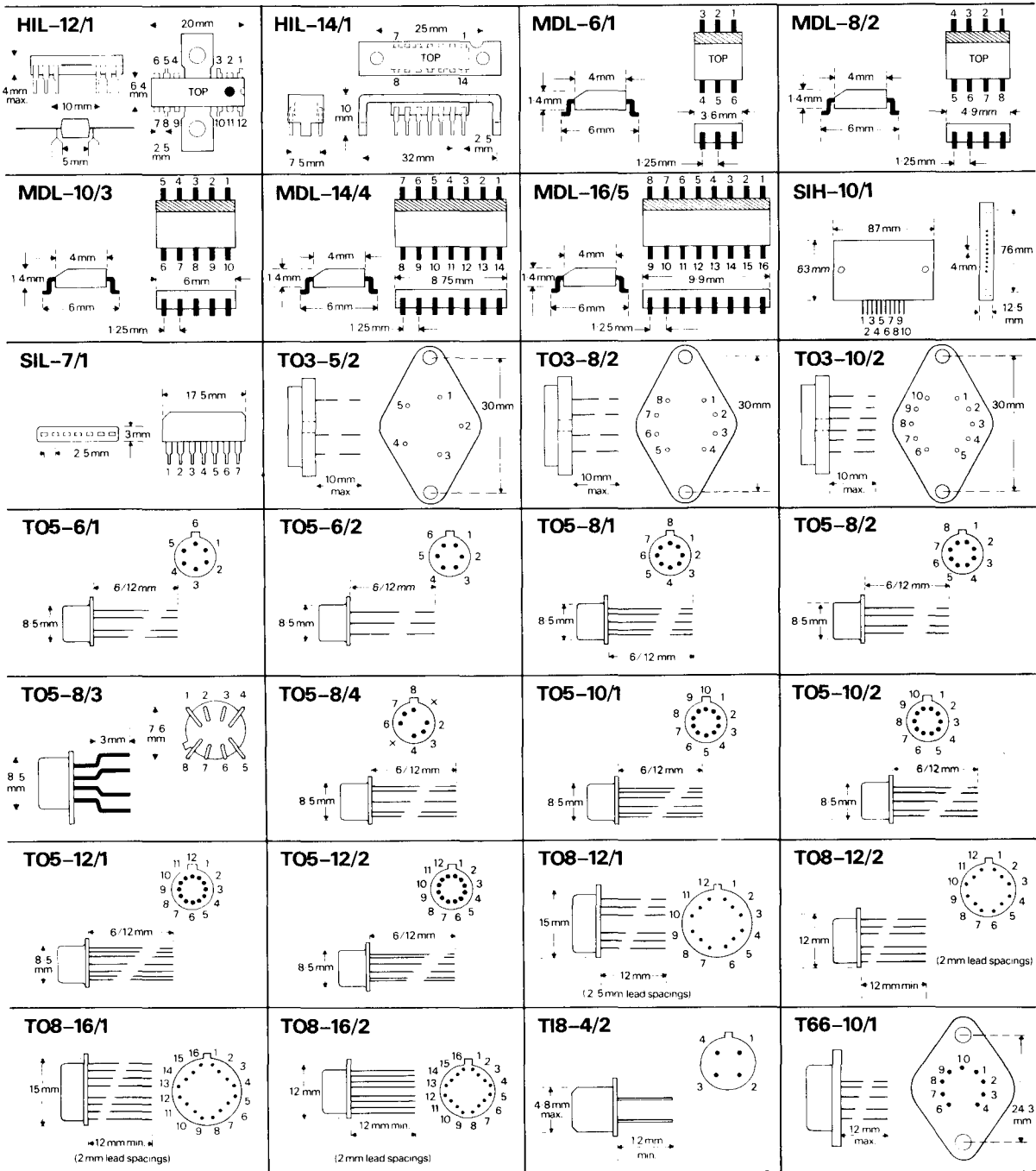
### *I: Connection Codes in Serial Order*

A	= Gain adjust, 1
A*	= Gain adjust, 2
B	= Bias adjust or set
C	= Case, package, screen
E+	= Input, non-inverting, low-level
E-	= Input, inverting, low-level
F	= Input frequency compensation, 1
F*	= Input frequency compensation, 2
G	= Ground, common, earth, zero volts
J+	= Input, non-inverting, high-level
J-	= Input, inverting, high-level
K	= Output, open collector
L	= Output, open emitter
M	= Metal casing
N	= Not connected, i.e. isolated lead
Q	= Special terminal (consult manufacturer's data)
R	= Output, 1
R*	= Output, 2
S	= Strobe
T	= Offset balance, trim or null, 1
T*	= Offset balance, trim or null, 2
V+	= +ve dc supply
V-	= -ve dc supply
W	= Guard ring
X	= Blank position, lead omitted
++	= +ve supplementary dc supply
--	= -ve supplementary dc supply
φ	= Output frequency compensation, 1
φ*	= Output frequency compensation, 2

### *II: Lead Assignments in Alphabetical Order*

Balance, offset, 1 = T
Balance, offset, 2 = T*
Bias adjust = B
Blank position, without lead = X
Case = C
Compensation, input, 1 = F
Compensation, input, 2 = F*
Compensation, output, 1 = φ
Compensation, output, 2 = φ*
DC supply, +ve = V+
DC supply, -ve = V-
Frequency compensation, input, 1 = F
Frequency compensation, input, 2 = F*
Frequency compensation, output, 1 = φ
Frequency compensation, output, 2 = φ*
Gain adjust, 1 = A
Gain adjust, 2 = A*
Ground = G
Guard ring = W
Input, inverting, high-level = J-
Input, non-inverting, high-level = J+
Input, inverting, low-level = E-
Input, non-inverting, low-level = E+
Input offset voltage, adjust, 1 = T
Input offset voltage, adjust, 2 = T*
Lead omitted, blank position = X
Lead in position but not connected = N
Metal case = M
Not connected, but lead in position = N
Null, offset, 1 = T
Null, offset, 2 = T*
Offset voltage adjust, 1 = T
Offset voltage adjust, 2 = T*
Output, 1 = R
Output, 2 = R*
Output, open-collector = K
Output, open-emitter = L
Package = C
Special purpose terminal (data sheet to be consulted) = Q
Strobe = S
Supply, dc, +ve = V+
Supply, dc, -ve = V-
Supply, dc, supplementary, +ve = ++
Supply, dc, supplementary, -ve = --
Trim (offset voltage), 1 = T
Trim (offset voltage), 2 = T*

Appendix F



Appendix F

