

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	CM RR MIN	PS RR MIN	R <sub>IN</sub> MIN	
RC1437DB	RAU	DGU	EXT	.	0.1V/US	+18V	-18V	75C	84dB	7.5MV	1.5UA	0.5UA	500MWF	5MA	12V	18V	5V	10UV/C	225MW	.	65dB	74dB	50K	
RC1437DC	RAU	DGU	EXT	.	0.1V/US	+18V	-18V	75C	84dB	7.5MV	1.5UA	0.5UA	500MWF	5MA	12V	18V	5V	10UV/C	225MW	.	65dB	74dB	50K	
RC14140C	RAU	DGP	EXT	.	.	+14V	-7V	75C	60dB	5MV	25UA	5UA	625MWF	5MA	1V	7V	5V	25UV/C	150MW	9MA	70dB	.	.	
RC1458DN	RAU	DGK	INT	.5MHZ	0.3V/US	+18V	-18V	70C	86dB	6MV	0.5UA	0.2UA	750MWF	5MA	12V	15V	30V	50UV/C	170MW	5MA	70dB	76dB	300K	
RC1458NB	RAU	DGK	INT	.5MHZ	0.3V/US	+18V	-18V	70C	86dB	6MV	0.5UA	0.2UA	750MWF	5MA	12V	15V	30V	50UV/C	170MW	6MA	70dB	76dB	300K	
RC1458T	RAU	DGK	INT	.5MHZ	0.3V/US	+18V	-18V	70C	86dB	6MV	0.5UA	0.2UA	680MWF	5MA	12V	15V	30V	50UV/C	170MW	6MA	70dB	76dB	300K	
RC1556ANB	RAU	SBA	INT	.5MHZ	1V/US	+18V	-18V	70C	96dB	5MV	30NA	10NA	500MWF	5MA	11V	18V	18V	40UV/C	90MW	3MA	70dB	74dB	1M	
RC1556AT	RAU	SBA	INT	2MHZ	1V/US	+18V	-18V	70C	96dB	5MV	30NA	10NA	500MWF	6MA	11V	18V	30V	50UV/C	90MW	3MA	70dB	74dB	2M	
RC1556BN	RAU	SBA	INT	.5MHZ	1V/US	+18V	-18V	70C	96dB	10MV	30NA	10NA	500MWF	5MA	11V	18V	18V	40UV/C	90MW	3MA	70dB	74dB	1M	
RC1556T	RAU	SBA	INT	2MHZ	1V/US	+18V	-18V	70C	96dB	10MV	30NA	10NA	500MWF	5MA	11V	18V	18V	40UV/C	90MW	3MA	70dB	74dB	1M	
RC1709	RAU	GPU	EXT	.3MHZ	.15V/US	+18V	-18V	70C	82dB	7.5MV	1.5UA	0.5UA	500MWF	5MA	12V	10V	5V	.	200MW	.	65dB	74dB	50K	
RC1741BL	RAU	GPK	INT	.	0.2V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	500MWF	5MA	12V	15V	30V	.	.	3MA	70dB	70dB	300K	
RC3401DB	RAU	QCD	INT	1MSHZ	0.2V/US	+18V	.	75C	60dB	.	300NA	.	625MWF	6MA	13V	.	.	.	.	10MA	.	50dB	.	.
RC3403ADB	RAU	QGK	INT	.3MHZ	0.2V/US	+18V	-18V	70C	88dB	6MV	500NA	50NA	650MWF	5MA	12V	15V	30V	50UV/C	.	5MA	70dB	80dB	300K	
RC3403ADC	RAU	QGK	INT	.3MHZ	0.5V/US	+18V	-18V	70C	88dB	6MV	500NA	50NA	650MWF	6MA	13V	18V	36V	.	.	5MA	70dB	80dB	300K	
RC4131NB	RAU	GPK	INT	2MHZ	1V/US	+18V	-18V	70C	91dB	5MV	150NA	20NA	500MWF	7MA	16V	15V	30V	20UV/C	.	2MA	70dB	70dB	700K	
RC4131T	RAU	GPK	INT	2MHZ	1V/US	+18V	-18V	70C	91dB	5MV	150NA	20NA	500MWF	7MA	16V	15V	30V	20UV/C	.	2MA	70dB	70dB	700K	
RC4136DB	RAU	QGK	INT	1MHZ	0.3V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	800MWF	5MA	12V	15V	30V	.	340MW	.	70dB	76dB	300K	
RC4136DC	RAU	QGK	INT	1MHZ	0.3V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	800MWF	5MA	12V	15V	30V	.	340MW	.	70dB	76dB	300K	
RC4137DB	RAU	QGK	INT	.3MHZ	0.5V/US	+18V	-18V	70C	88dB	6MV	500NA	50NA	650MWF	6MA	13V	18V	36V	.	.	5MA	70dB	80dB	.	
RC4137DC	RAU	QGK	INT	.3MHZ	0.5V/US	+18V	-18V	70C	88dB	6MV	500NA	50NA	650MWF	6MA	13V	18V	36V	.	.	5MA	70dB	80dB	.	
RC4531D	RAU	HSR	EXT	.	10V/US	+18V	-18V	70C	86dB	6MV	1.5UA	200NA	500MWF	5MA	10V	15V	15V	.	300MW	10MA	70dB	76dB	300K	
RC4531DN	RAU	HSR	EXT	.	10V/US	+18V	-18V	70C	86dB	6MV	1.5UA	200NA	500MWF	5MA	10V	15V	15V	15UV/C	.	300MW	10MA	70dB	76dB	300K
RC4531T	RAU	HSR	EXT	.	10V/US	+18V	-18V	70C	86dB	6MV	1.5UA	200NA	500MWF	5MA	10V	15V	15V	15UV/C	.	300MW	10MA	70dB	76dB	300K
RC4558NB	RAU	DWB	INT	1MHZ	0.5V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	500MWF	5MA	12V	15V	30V	.	170MW	.	70dB	76dB	300K	
RC4558T	RAU	DWB	INT	1MHZ	0.5V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	500MWF	5MA	12V	15V	30V	.	170MW	.	70dB	76dB	300K	
RC4739DB	RAU	DLN	INT	.	0.3V/US	+18V	-18V	70C	86dB	6MV	500NA	200NA	500MWF	5MA	12V	15V	30V	.	170MW	.	70dB	76dB	300K	
RM101ABL	RAU	GPU	EXT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM101AD	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM101AQ	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM101AT	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM101D	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	5MV	1.5UA	0.5UA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	70dB	70dB	300K	
RM101Q	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	5MV	1.5UA	0.5UA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	70dB	70dB	300K	
RM101T	OBS	GPU	EXT	.	.	+22V	-22V	125C	94dB	5MV	1.5UA	0.5UA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	70dB	70dB	300K	
RM106BL	RAU	CPR	EXT	.	.	+15V	-15V	125C	84dB	2MV	20UA	3UA	.	50MA	2.5V	.	.	10UV/C	163MW	.	.	.	.	
RM107D	OBS	GPK	INT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM107Q	OBS	GPK	INT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM107T	OBS	GPK	INT	.	.	+22V	-22V	125C	94dB	2MV	75NA	10NA	500MWF	5MA	12V	15V	30V	15UV/C	.	3MA	80dB	80dB	1.5M	
RM108AD	OBS	SBA	EXT	.	.	+20V	-20V	125C	98dB	0.5MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	5UV/C	.	6MA	96dB	96dB	30M	
RM108AQ	OBS	SBA	EXT	.	.	+20V	-20V	125C	98dB	0.5MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	5UV/C	.	6MA	96dB	96dB	30M	
RM108AT	OBS	SBA	EXT	.	.	+20V	-20V	125C	98dB	0.5MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	5UV/C	.	6MA	96dB	96dB	30M	
RM108D	OBS	SBA	EXT	.	.	+20V	-20V	125C	96dB	2MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	15UV/C	.	6MA	85dB	80dB	30M	
RM108Q	OBS	SBA	EXT	.	.	+20V	-20V	125C	96dB	2MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	15UV/C	.	6MA	85dB	80dB	30M	
RM108T	OBS	SBA	EXT	.	.	+20V	-20V	125C	96dB	2MV	2NA	0.2NA	500MWF	1MA	13V	15V	1V	15UV/C	.	6MA	85dB	80dB	30M	
RM702AQ	OBS	WBA	EXT	.	0.5V/US	+14V	-7V	125C	68dB	2MV	5UA	0.5UA	500MWF	.3MA	5V	1.5V	5V	10UV/C	120MW	.	80dB	74dB	16K	
RM702AT	OBS	WBA	EXT	3MHZ	.	+13V	-8V	125C	68dB	2MV	5UA	0.5UA	670MWF	.3MA	5V	5V	5V	10UV/C	120MW	7MA	80dB	74dB	16K	
RM702D	OBS	WBA	EXT	3MHZ	.	+13V	-8V	125C	68dB	2MV	5UA	0.5UA	670MWF	.3MA	5V	5V	5V	10UV/C	120MW	7MA	80dB	74dB	16K	
RM702DC	RAU	WBA	EXT	.	0.5V/US	+14V	-7V	125C	63dB	5MV	10UA	2UA	300MWF	.3MA	5V	1.5V	5V	20UV/C	120MW	7MA	70dB	70dB	8K	
RM702Q	RAU	WBA	EXT	3MHZ	.	+13V	-8V	125C	68dB	2MV	5UA	0.5UA	570MWF	.3MA	5V	5V	5V	10UV/C	120MW	7MA	80dB	74dB	16K	
RM702T	RAU	WBA	EXT	3MHZ	.	+13V	-8V	125C	68dB	2MV	5UA	0.5UA	500MWF	.3MA	5V	5V	5V	10UV/C	120MW	7MA	80dB	74dB	16K	
RM709ABL	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	2MV	200NA	50NA	.	5MA	12V	10V	5V	10UV/C	108MW	.	80dB	80dB	350K	
RM709ADC	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	2MV	200NA	50NA	670MWF	5MA	12V	10V	5V	10UV/C	108MW	.	80dB	80dB	350K	
RM709AQ	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	2MV	200NA	50NA	570MWF	5MA	12V	10V	5V	10UV/C	108MW	.	80dB	80dB	350K	
RM709AT	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	2MV	200NA	50NA	500MWF	5MA	12V	10V	5V	10UV/C	108MW	.	80dB	80dB	350K	
RM709BL	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	5MV	500NA	200NA	.	5MA	12V	10V	5V	15UV/C	165MW	.	70dB	76dB	150K	
RM709DC	FAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	5MV	500NA	200NA	670MWF	5MA	12V	10V	5V	15UV/C	165MW	.	70dB	76dB	150K	
RM709Q	FAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	5MV	500NA	200NA	570MWF	5MA	12V	10V	5V	15UV/C	165MW	.	70dB	76dB	150K	
RM709T	RAU	GPU	EXT	3MHZ	.15V/US	+18V	-18V	125C	88dB	5MV	500NA	200NA	500MWF	5MA	12V	10V	5V	15UV/C	165MW	.	70dB	76dB	150K	
RM710ABL	RAU	CPR	EXT	.	.	+14V	-6V	125C	63dB	1MV	15UA	1UA	.	5MA	2.5V	7V	5V	5UV/C	150MW	9MA	90dB	.	.	
RM710ADC	RAU	CPR	EXT	.	.	+14V	-6V	125C	63dB	1MV	15UA	1UA	670MWF	5MA	2.5V	7V	5V	5UV/C	150MW	9MA	90dB	.	.	

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)

$dV_{in}/dT$  = 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.)

$P_C$  = quiescent power consumer

PSRR = power supply rejection ratio

$V_{CM}$  = common mode input voltage rating

$V_{diff}$  = differential input voltage rating

$V_{in}$  = 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 SUBSTI-TUTE	USA SUBSTI-TUTE	IS	TYPE NUMBER	
DIL-14/1P	Ø2	R2	F2	F*2	E-2	E+2	V-	E+1	E-1	F1	F*1	R1	Ø1	V+				MC1437L	0	RC1437DB	
DIL-14/1C	Ø2	R2	F2	F*2	E-2	E+2	V-	E+1	E-1	F1	F*1	R1	Ø1	V+				MC1437L	0	RC1437DC	
DIL-14/1C	R2	S2	V+2	N	E+1	E-1	V-	R1	S1	V+1	G	E+2	E-2	V-			LM1414J	MC1414L	0	RC14140C	
DIL-8/1P	R1	E-1	E+1	V-	E+2	E-2	R2	V+									TBB1458B	MC1458U	0	RC1458DN	
DIL-8/1P	R1	E-1	E+1	V-	E+2	E-2	R2	V+									TBB1458B	MC1458U	0	RC1458NB	
T05-8/1M	R1	E-1	E+1	V-	E+2	E-2	R2	V+									TBB1458	MC1458G	0	RC1458T	
DIL-8/1P	T	E-	E+	V-	T*	R	V+	N										RC1556ANB	0	RC1556ANB	
T05-8/1M	T	E-	E+	V-	T*	R	V+	N										RC1556AT	0	RC1556AT	
DIL-8/1P	T	E-	E+	V-	T*	R	V+	N										NS556V	0	RC1556NB	
T05-8/1M	T	E-	E+	V-	T*	R	V+	N									MC1456G	MC1456T	0	RC1556T	
FLP-10/3G	N	F	E-	E+	V-	Ø	R	V+	F*	N							SNS2709AFA	MC1709CF	0	RC1709	
BML																				0	RC1741BL
DIL-14/1P	E+1	E+2	E-2	R2	R1	E-1	G	E-3	R3	R4	E-4	E+4	E+3	V+			UA3401P	MC3401P	0	RC3401DB	
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			UA3403D	MC3403L	0	RC3403ADB	
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				RV3403ADC	0	RC3403ADC	
DIL-8/1P	T	E-	E+	V-	T*	R	V+	N											0	RC4131NB	
T05-8/1M	T	E-	E+	V-M	T*	R	V+	N											RM4131T	0	RC4131T
DIL-14/1P	E-1	E+1	R1	R2	E+2	E-2	V-	E-3	R3	V+	R4	E+4	E-4	E-4				RV4136DB	0	DC4136DB	
DIL-14/1P	E-1	E+1	R1	R2	E+2	E-2	V-	E-3	R3	V+	R4	E+4	E-4	E-4				RV4136DB	0	RC4136DC	
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				RC3403ADB	0	RC4137DB	
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				RC3403ADC	0	RC4137DC	
DIL-14/1C	N	N	T	E-	E+	V-	N	T*	R	V+	Ø0	N	N					RM4531D	0	RC4531D	
DIL-8/1P	T	E-	E+	V-	T*	R	V+	Ø											RC4531DN	0	RC4531DN
T05-8/1M	T	E-	E+	V-	T*	R	V+	Ø											RM4531T	0	RC4531T
DIL-8/1P	R1	E-1	E+1	V-	E+2	E-2	R2	V+											MC4558CU	0	RC4558NB
T05-8/1M	R1	E-1	E+1	V-	E+2	E-2	R2	V+											MC4558CG	0	RC4558T
DIL-14/1P	R1	N	N	N	E+1	E-1	V-	E-2	E+2	N	N	R2	V+							0	RC4739DB
BML																				0	RM101ABL
DIL-14/1C	N	N	FT	E-	E+	V-	N	N	T*	R	V+	F*	N	N			UA101AD	LM101AJ14	0	RM101AD	
FLP-10/3G	N	FT	E-	E+	V-	T*	R	V+	F*	N							SFC2101APM	LM101AF	0	RM101AQ	
T05-8/1M	FT	E-	E+	V-M	T*	R	V+	F*									SFC2101A	LM101AH	0	RM101AT	
DIL-14/1C	N	N	FT	E-	E+	V-	N	N	T*	R	V+	F*	N	N			UA101AD	LM101J14	0	RM101D	
FLP-10/3G	N	FT	E-	E+	V-	T*	R	V+	F*	N							SFC2101APM	LM101F	0	RM101Q	
T05-8/1M	FT	E-	E+	V-M	T*	R	V+	F*									SFC2101A	LM101H	0	RM101T	
BML																				0	RM106BL
DIL-14/1C	N	N	N	E-	E+	V-	N	N	N	R	V+	N	N	N			SNS2107JA	LM107D	0	RM107D	
FLP-10/3G	N	N	E-	E+	V-	N	R	V+	N	N							SFC2107PM	LM107F	0	RM107Q	
T05-8/1M	N	E-	E+	V-M	N	R	V+	N									SFC2107M	LM107H	0	RM107T	
DIL-14/1C	N	F	N	E-	E+	V-	N	N	R	V+	F*	N	N				UA108AD	LM108AD	0	RM108AD	
FLP-10/3G	N	N	E-	E+	N	V-	R	V+	F*	F							LM108AF	LM108AF	0	RM108AQ	
T05-8/1M	F	E-	E+	V-M	N	R	V+	F*									SFC2108A	LM108AH	0	RM108AT	
DIL-14/1C	N	F	N	E-	E+	V-	N	N	R	V+	F*	N	N				UA108D	LM108D	0	RM108D	
FLP-10/3G	N	N	E-	E+	N	V-	R	V+	F*	F							SFC2108PM	LM108F	0	RM108Q	
T05-8/1M	F	E-	E+	V-M	N	R	V+	F*									SFC2108M	LM108H	0	RM108T	
FLP-10/3G	N	G	E-	E+	V-	F	Ø	R	N	V+							SNS2702AFA	SNS2702AFA	0	RM702AQ	
T05-8/1M	G	E-	E+	V-M	F	Ø	R	V+									SNS2702AL	UA702HM	0	RM702AT	
DIL-14/1C	N	N	G	E-	E+	V-	N	N	F	Ø	R	N	V+	N			SNS2702AJ	UA702DM	0	RM702D	
DIL-14/1C	N	N	G	E-	E+	V-	N	N	F	Ø	R	N	V+	N			MC1712L	SNS2702J	0	RM702DC	
FLP-10/3G	N	G	E-	E+	V-	F	Ø	R	N	V+							MC1712F	UA702FM	0	RM702Q	
T05-8/1M	G	E-	E+	V-M	F	Ø	R	V+									MC1712G	UA702HM	0	RM702T	
BML																				0	RM709ABL
DIL-14/1C	N	N	F	E-	E+	V-	N	N	Ø	R	V+	F*	N	N			LM709AJ	UA709ADM	0	RM709ADC	
FLP-10/3G	N	F	E-	E+	V-	Ø	R	V+	F*	N							SNS2709AFA	UA709AFM	0	RM709AQ	
T05-8/1M	F	E-	E+	V-	Ø	Ø*	R	V+	F*								MC1709AG	UA709AHM	0	RM709AT	
BML																				0	RM709BL
DIL-14/1C	N	N	F	E-	E+	V-	N	N	Ø	R	V+	F*	N	N			LM709J	UA709DM	0	RM709DC	
FLP-10/3G	N	F	E-	E+	V-	Ø	R	V+	F*	N								UA709FM	UA709DM	0	RM709Q
T05-8/1M	F	E-	E+	V-	Ø	Ø*	R	V+	F*								TAA522	UA709HM	0	RM709T	
BML																				0	RM710ABL
DIL-14/1C	N	G	E+	E-	N	V-	N	N	R	N	V+	N	N	N				RM710ADC	0	RM710ADC	

# 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> <sup>+</sup> MAX	V <sub>S</sub> <sup>-</sup> 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><sup>+</sup> MAX = MAX. PERMISSIBLE +VE DC SUPPLY VOLTAGE IN VOLTS, V</p> <p>V<sub>S</sub><sup>-</sup> 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. INPUT 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

USA SUBSTITUTION = SUGGESTED ALTERNATIVE AVAILABLE IN USA.

ISS = ISSUE NUMBER OF DATA ENTRY

TYPE No. REPEATED ON R.H. MARGIN

# 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

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<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

