

Plastic Package Dimensional/Thermal Data

The following table identifies all of the plastic package configurations and pin counts per package type offered by National Semiconductor. In addition, the table provides dimensional and thermal data for each of the plastic packages offered by National.

Selected packages may be offered through the use of subcontractors. The following table does not differentiate between subcontractor and in-house packages. National Semiconductor will use subcontractor packages based upon product needs defined by availability, cycle time and cost.

PLEASE NOTE: The thermal information in this document is provided as a guideline. The data cover specific die sizes only and may vary dependent on the product and the end use configuration. For specific thermal data for individual products, please contact your local sales representative or distributor.

TABLE 1. Plastic Package Dimensional Data

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
Small Outline Transistor (SOT-223)	MA04A	TO-261-AA	140	256	CU	90	287	264
	MA05C	None	140	256	CU	90	287	264
Small Outline Transistor (SOT-23)	M03A	TO-236-AA	51	115	A-42	75	98	120
	M03B	TO-236-AB	51	115	A-42	75	98	120
	MA05A	None	65	115	A-42	75	118	120
	MA05B	MO-178-AA	63	114	CU	75	118	118
	MA08C	None	130	160	CU	37.5	185	165
Super-SOT	MA03B	None	55	115	CU	75	104	120
	MA06A	None	63	115	CU	37.5	118	118
SOJ	MJ32A	None	296	818		50	340	822
Small Outline Package (SOP)	M08A	MS-012-AA	154	193	CU	50	244	197
	M14A	MS-012-AB	154	339	CU	50	244	344
	M14B	MS-013-AF	294	354	CU	50	419	362
	M14D	None	209	402	CU	50	319	421
	M16A	MS-012-AC	154	390	CU	50	244	394
	M16B	MS-013-AA	294	404	CU	50	419	406
	M16D	None	209	402	CU	50	319	421
	M20B	MS-013-AC	294	504	CU	50	419	512
	M20D	None	209	496	CU	50	319	500
	M24B	MS-013-AD	294	604	CU	50	419	614
	M24D	None	209	600	CU	50	322	609
	M28B	MS-013-AE	296	706	CU	50	419	713
	MA28A	MO-059-AC	346	714		50	477	718
	MA32A	None	421	811		50	568	818
SC70	MAA05A	None	49	78	A-42	25	94	82
Power Small Outline Package (PSOP)	MWA08A	MS-012-AA	155	194	CU	50	244	196
	MWA16A	None	155	389	CU	50	244	393
	MWB20A	None	296	505	CU	50	410	510
	MWC36A	MO-166-AE	433	626		25.6	571	630
	MWC44A	None	433	626	CU	25.6	563	630

TABLE 1. Plastic Package Dimensional Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
Shrink Small Outline Package (SSOP)	MSA14	None	208	244		25	307	249
	MSC14	None	173	196		25.6	264	205
	MQA16	MO-137-AB	150	193		25	244	197
	MSA16	None	208	244		25	307	249
	MSC16	None	173	196		25.6	264	205
	MQA20	MO-137-AD	154	341	CU	25	241	344
	MSA20	None	209	283	CU	25.6	319	291
	MSC20	None	173	256		25.6	264	264
	MQA24	MO-137-AE	154	341	CU	25	241	344
SSOP (Continued)	MSA24	None	209	323	CU	25.6	319	325
	MQA28	MO-137-AF	157	390	CU	25	244	394
	MSA28	None	208	401		25.6	311	407
	MEC34	None	295	706		40	410	711
	MED34	None	295	706		40	410	711
	MEB36	None	295	607		31	410	612
	MS40A	None	295	535	CU	25	413	543
	MEB44	None	296	706		31	299	711
	MS48A	MO-118-AA	295	625	CU	25	420	630
	MS56A	MO-118-AB	295	725	CU	25	420	730
Thin Small Outline Package (TSOP)	MBS28A	None	464	315		21.6	527	323
	MBH32A	None	724	315	A-42	19.6	795	323
	MBH32B	None	724	315	A-42	19.6	795	323
	MDA44	None	400	724		31	470	728
	MDB44	None	400	724		31	470	728
Thin Shrink Small Outline Package (TSSOP)	MTC08	MO-153-AA	173	118		25.6	252	122
	MTC14	MO-153-AB	173	197		25.6	252	200
	MTC16	MO-153-AB	173	197		25.6	252	200
	MTA20	None	112	256		25.6	264	260
	MTC20	MO-153-AC	173	256		25.6	252	260
	MXA20A	MO-153-ACT	173	256	CU	25.6	252	260
	MTB24	None	220	307		25.6	307	311
	MTC24	MO-153-AD	173	307		25.6	252	311
TSSOP (Continued)	MTC28	MO-153-AE	173	382		25.6	252	386
	MTE28	MO-153-DB	240	382		25.6	319	386
	MXA28A	MO-153-AET	173	382	CU	25.6	252	386
	MTD32	None	240	433		19.6	319	437
	MTE32	MO-153-DC	240	433		25.6	319	437
	MTE38	None	240	492		25.6	319	496
	MTD48	MO-153-ED	240	492		19.6	319	496
	MTD56	MO-153-EE	240	551		19.6	319	555
Very Small Outline Package (VSOP)	M40A	None	295	606	CU	25.6	419	614
Mini-SO	MUA08A	MO-187-AA	118	118	CU	25.6	199	122

TABLE 1. Plastic Package Dimensional Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
Molded Dual-in-Line Package (MDIP)	N08E	MO-001-AB	250	386	CU	100	320	400
	N14A	MO-001-AC	250	755	CU	100	320	770
	N16A	MO-001-AL	250	856	CU	100	320	870
	N16E	MO-001-AA	250	760	CU	100	320	780
	N16G	MO-001-AL	250	856	CU	100	325	870
	N18A	MS-001-AD	250	856	CU	100	320	870
	N20A	MS-001-AE	260	1026	CU	100	320	1040
	N22A	MS-010-AA	350	1106	CU	100	420	1120
	N22B	MS-001-AL	280	1090	CU	100	325	1100
	N24A	MS-011-AA	540	1256	CU	100	620	1270
	N24C	MS-001-AF	260	1256	CU	100	320	1270
MDIP (Continued)	N24D	MS-001-AF	280	1260	CU	100	325	1270
	N24E	MS-011-AB	342	1204	CU	100	410	1214
	NA24F	None	540	1250	CU	100	620	1260
	NA24G	MO-095-AG	288	1165	CU	100	325	1170
	N28B	MS-011-AB	510	1406	CU	100	620	1420
	NA28E	MS-011-AB	540	1450	CU	100	625	1455
	NA28F	None	529	1426	CU	100	625	1460
	NA32A	MO-015-AP	540	1650	CU	100	625	1655
	N40A	MS-011-AC	550	2056	CU	100	620	2070
	NA40A	MS-011-AC	700	2050	CU	100	770	2055
Transistor Outline (TO-202)	N48A	MS-011-AD	550	2416	CU	100	620	2440
	P03A	TO-220-AB	380	190	CU	100	380	790
	P03B	None	380	190	CU	100	380	760
	P03C	None	380	190	CU	100	380	780
	P03D	None	380	190	CU	100	380	365
	P03E	None	380	190	CU	100	380	805
	P03F	None	380	190	CU	100	380	835
	P03G	None	380	190	CU	100	380	810
	P03H	None	380	190	CU	100	390	365
	P03J	None	380	190	CU	100	390	365
	P04A	None	410	160	CU	100	410	650
P11A	None	1120	135	CU	100	1120	135	
Transistor Outline (TO-237)	R03A	TO-237-AA	145	185	CU	145	185	185
	R03B	None	210D		CU	145	185	185
	R03C	None	145	218	CU	145	185	185
	R03D	None	145	185	CU	145	185	185
Transistor Outline (TO-226)	RC03A	TO-226-AE	145	185	CU	145	185	300
	RC03B	None	210D		CU	145	185	300
	RC03C	None	145	218	CU	145	185	300
	RC03D	None	145	185	CU	145	185	300

TABLE 1. Plastic Package Dimensional Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
Transistor Outline (TO-220)	T02D	TO-220-AA	420	185	CU	100	420	730
	TA02A	TO-220-AC	420	185	CU	100	420	185
	T03A	None	415	185	CU	100	415	880
	T03B	TO-220-AB	420	185	CU	100	420	185
	T03D	None	415	185	CU	100	420	940
	T03F	None	415	185	CU	100	415	760
	TA03A	None	420	185	CU	100	420	323
	TA03F	TO-220-AB	400	590	CU	100	415	185
	TA03H	TO-220-AB	400	590	CU	100	410	185
	T05A	None	420	185	CU	67	420	185
TO-220 (Continued)	T05D	None	420	185	CU	67	420	343
	T05E	None	420	185	CU	67	420	875
	T05F	None	415	185	CU	67	420	343
	TA05A	None	420	185	CU	67	420	610
	TA05B	None	415	185	CU	67	415	610
	TH005A	None	690	825	CU	100	695	270
	TH005B	MO-078-AA	690	825	CU	100	0.695	1130
	TA07A	None	400	590	CU	50	415	185
	TA07B	None	400	590	CU	50	410	333
	TA07D	None	394	606	CU	50	409	350
TO-220 (Continued)	TA9A	None	400	590	CU	38	410	333
	TA11A	None	788	182	CU	67	798	420
	TA11B	TO-220	798	182	CU	67	798	420
	TA11C	None	798	182	CU	67	798	426
	TA11D	None	798	182	CU	67	798	398
	TA11E	None	798	182	CU	67	798	426
	TF11B	MO-16B-AA	788	771	CU	67	793	389
	TA12A	None	1198	182	CU	100	1198	182
	TA15A	None	798	182	CU	50	798	398
	TA15B	MO-16B-AB	788	771	CU	50	793	389
	TA15D	None	788	689	CU	50	798	945
	TF15A	None	788	771	CU	50	793	182
	TF15B	MO-16B-AB	788	771	CU	50	793	389
	TA23A	None	1198	182	CU	50	1198	398
Transistor Outline (TO-252)	TD03B	TO-252-AA	259	287	CU	90	264	100
Transistor Outline (TO-263)	TS2A	None	400	390	CU	100	410	565
	TS3B	#10-340	400	390	CU	100	410	565
	TS5B	#10-340	400	390	CU	67	410	565
	TS7B	#10-340	400	390	CU	50	410	565
	TS9A	None	400	392	CU	38	410	565
	TS11B	#10-340	788	501	CU	67	793	635
	TS15B	#10-340	788	501	CU	50	793	635
Plastic Pin Grid Array (PPGA)	UP124A	None	1390	1390	KOVAR	100	1390	1390
	UP159A	None	1680	1680	KOVAR	100	1680	1680
	UP175A	None	1680	1680	KOVAR	100	1680	1680

TABLE 1. Plastic Package Dimensional Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
Plastic Leaded Chip Carrier (PLCC)	V20A	MO-047-AA	350	350	CU	50	395	395
	V28A	MO-047-AB	450	450	CU	50	495	495
	V32A	MO-052-AE	450	550	CU	50	495	595
	V44A	MO-047-AC	650	650	CU	50	695	695
	V52A	MO-047-AD	750	750	CU	50	795	795
	V68A	MO-047-AE	950	950	CU	50	995	995
	V84A	MO-047-AF	1150	1150	CU	50	1195	1195
Plastic Quad Flat Package (PQFP)	VBA32A	MO-136-AC	7mm	7mm	CU	0.80mm	394	394
	VBE32A	MO-136-BC	7mm	7mm	CU	0.80mm	394	394
	VEF44A		10mm	10mm	CU	0.80mm	530	530
	VEJ44A	MO-136-BG	10mm	10mm	CU	0.80mm	512	512
	VEK44A	MS-022-AB	10mm	10mm	CU	0.80mm	559	559
	VGZ44A	MO-108-AC	10mm	10mm	CU	0.80mm	559	559
	VJC44A	MO-136-AQ	14mm	14mm	CU	1.0mm	669	669
	VJP44A	MS-022-BA	14mm	14mm	CU	1.0mm	716	716
	VBG48A	None	7mm	7mm	CU	0.50mm	394	394
	VGB52A	MO-136-BH	10mm	10mm	CU	0.65mm	512	512
	VJL52A	None	14mm	14mm	CU	1.0mm	732	732
	VJM52A	MS-022-BA	14mm	14mm	CU	1.0mm	716	716
	PQFP (Continued)	VKP52A	MS-022-BD	14mm	14mm	CU	1.0mm	716
VJZ60A		None	14mm	14mm	CU	0.80mm	732	732
VEH64A		MO-136-BJ	10mm	10mm	CU	0.50mm	512	512
VJN64A		MO-136-BP	14mm	14mm	CU	0.80mm	669	669
VJQ64A		MS-022-BB	14mm	14mm	CU	0.80mm	716	716
VCC80A			14mm	20mm	CU	0.80mm	760	1000
VHB80A		MO-108-AA-1	10mm	10mm	CU	0.50mm	559	559
VHG80A		Pending	12mm	12mm	CU	0.50mm	590	590
VJB80A		MS-026-ADD	12mm	12mm	CU	0.65mm	590	590
VJE80A		MO-108-BE	14mm	14mm	CU	0.65mm	695	695
VJH80A		MO-136-BQ	14mm	14mm	CU	0.65mm	669	669
VLC80B		None	14mm	20mm	CU	0.80mm	732	968
PQFP (Continued)		VLG80A	None	14mm	20mm	CU	0.80mm	811
	VCE100A	MO-108-CC	14mm	14mm	CU	0.65mm	695	695
	VCG100A	None	14mm	20mm	CU	0.65mm	733	968
	VJD100A	MO-136-AR	14mm	14mm	CU	0.50mm	669	669
	VJG100A	Pending	14mm	14mm	CU	0.50mm	695	695
	VJU100A	MO-153-CA	14mm	14mm	CU	0.50mm	693	693
	VLJ100A		14mm	14mm	CU	0.65mm	695	695
	VLK100A	None	14mm	20mm	CU	0.65mm	744	980
	VQB120A	MO-108-DA-1	28mm	28mm	CU	0.80mm	1268	1268
	VQD120A	None	28mm	28mm	CU	0.80mm	1299	1299
	VQZ120A	None	28mm	28mm	CU	0.80mm	1268	1268
	VUZ120A	MS-022-DA-1	28mm	28mm	CU	0.80mm	1268	1268

TABLE 1. Plastic Package Dimensional Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Body Size		Lead Frame		Board Area	
			Wide Nom. (mils)	Long Nom. (mils)	Mt'l	Pitch (mils)	Max. (mils) (X)	Max. (mils) (Y)
PQFP (Continued)	VLA128A	None	14mm	20mm	CU	0.50mm	716	953
	VLW128A	None	14mm	20mm	CU	0.50mm	732	968
	VQC128A	MS-022-DB-1	28mm	28mm	CU	0.80mm	1268	1268
	VF132A	MO-069-AE	950	950	CU	25	1100	1100
	VNG144A		20mm	20mm	CU	0.50mm	900	900
	VQY144A	None	28mm	28mm	CU	0.65mm	1268	1268
	VUY144A	MS-022-DC-1	28mm	28mm	CU	0.65mm	1268	1268
	VPB160A	MO-136-BV	24mm	24mm	CU	0.50mm	1063	1063
	VQB160B	None	28mm	28mm	CU	0.65mm	1268	1268
	VQG160A	None	28mm	28mm	CU	0.65mm	1299	1299
	VQL160A		28mm	28mm	CU	0.65mm	1315	1315
VUG160A	MO-136-DE	28mm	28mm	CU	0.65mm	1220	1220	
PQFP (Continued)	VUL160A	Pending	28mm	28mm	CU	0.65mm	1315	1315
	VPC176A	MO-136-BV	24mm	24mm	CU	0.50mm	1063	1063
	VF196A	MO-069-AG	1350	1350	CU	25	1510	1510
	VQK208A	None	28mm	28mm	CU	0.50mm	1244	1244
	VQM208A	MO-143-FA-1	28mm	28mm	CU	0.50mm	1244	1244
	VUF208A	None	28mm	28mm	CU	0.50mm	1244	1244
	VUH208A	MO-136-DF	28mm	28mm	CU	0.50mm	1220	1220
	VUM208A	None	28mm	28mm	CU	0.50mm	1244	1244
	VUW208A	Pending	28mm	28mm	CU	0.50mm	1315	1315
	VWA240A	MO-143-GA	32mm	32mm	CU	0.50mm	1402	1402
	VUJ256A	MO-136-DG	28mm	28mm	CU	0.40mm	1220	1220
VYC304A	MO-143-JA	40mm	40mm	CU	0.50mm	1716	1716	
Thin Quad Flat Package (TQFP)	VEV64A	MS-026-BCD	10mm	10mm	CU	0.50mm	512	512
	VJK64A	MS-026-BEB	10mm	10mm	CU	0.80mm	669	669
	VLB128A	MS-026-BHB	14mm	20mm	CU	0.50mm	669	905
	VNH128A	None	20mm	20mm	CU	0.50mm	905	905
	VNG144B	MS-026-BFB	20mm	20mm	CU	0.50mm	905	905
Transistor Outline (TO-92)	Z03A	TO-226-AA	145	185	CU	145	185	185
	Z03B	TO-226-AA	145	185	CU	145	185	185
	Z03C	TO-226-AB	145	185	CU	145	185	185
	Z03D	None	210DI		CU	145	185	185
	Z03E	None	145	185	CU	145	185	185
	Z03G	None	145	185	CU	145	185	185
	Z03H	None	145	185	CU	145	185	185
	Z03J	None	145	185	CU	145	185	185

TABLE 2. Plastic Package Thermal Data

Package Type	Mkt Dwg	JEDEC Spec	Typical Thermal Data					
			Die Size (Sq mils)	θ_{JA} (°C/W) (Note 1) Flow—LFM (Linear Feet/Minute)				θ_{JC} (°C/W)
				0	225	500	1000	
Small Outline Transistor (SOT-23)	M03A	TO-236-AA	900	405	353	325	294	140
	M03B	TO-236-AB	900	405	353	325	294	140
Small Outline Package, JEDEC (SOP)	M08A	MS-012-AA	3600	172	138	123	115	35
	M14A	MS-012-AB	1672	137	108	98	90	30
	M14B	MS-013-AF	3900	114	89	80	72	27
	M16A	MS-012-AC	2115	130	107	97	89	29
	M16B	MS-013-AA	14762	95	76	66	60	20
	M20B	MS-013-AC	10900	84	60	55	51	19
	M24B	MS-013-AD	17800	78	56	51	47	17
	M28B	MS-013-AE	14762	69	55	48	42	15
Small Outline Package, EIAJ (SOP)	M14D	None	1722	143	120	110	101	52
	M16D	None	3360	130	109	98	91	45
	M20D	None	3717	111	97	90	81	39
Shrink Small Outline Package, JEDEC (SSOP)	MQA20	MO-137-AD	Data Not Available at This Time					
	MQA24	MO-137-AE	Data Not Available at This Time					
	MS48A	MO-118-AA	16000	92	71	62	54	20
	MS56	MO-118-AB	16000	81	63	55	47	17
Shrink Small Outline Package, EIAJ (SSOP)	MSA20	None	Data Not Available at This Time					
	MSA24	None	Data Not Available at This Time					
	MS40A	None	17000	71	56	49	42	15
Very Small Outline Package (VSOP)	M40A	None	Data Not Available at This Time					
Thin Small Outline Package, EIAJ (TSOP)	MBH32A	Pending	84375	99	Data Not Available at This Time			
Thin Shrink Small Outline Package, EIAJ (TSSOP)	MTA20	None	Data Not Available at This Time					
Molded Dual In-Line Package (MDIP)	N08E	MO-001-AB	3600	107	85	70	60	37
	N14A	MO-001-AC	6290	79	60	51	47	30
	N16A	MO-001-AL	14606	63	45	36	28	20
	N16E	MO-001-AA	9048	75	56	48	44	27
	N16G	MO-001-AL	14606	52	39	36	29	18
	N18A	MS-001-AD	10000	70	53	45	41	24
	N20A	MS-001-AE	15388	65	49	42	39	21
	N22A	MS-010-AA	10000	65	49	40	39	21
	N22B	MS-001-AL	10000	68	52	43	40	22
	N24A	MS-011-AA	14762	61	48	40	37	21
	N24C	MS-001-AF	20800	49	35	29	24	17
	N24D	MS-001-AF	21000	48	33	28	23	26
	N24E	MS-011-AB	14762	58	46	39	34	20
	N28B	MS-011-AB	10900	60	47	40	35	21
	N40A	MS-011-AC	23900	45	33	30	27	14
	N48A	MS-011-AD	14762	50	41	37	33	15

TABLE 2. Plastic Package Thermal Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Typical Thermal Data					θ_{JC} (°C/W)
			Die Size (Sq mils)	θ_{JA} (°C/W) (Note 1) Flow—LFM (Linear Feet/Minute)				
				0	225	500	1000	
TO-202	P03A	TO-202-AB	900	63	47	41	37	13
	P03B	None	900	63	47	41	37	13
	P03C	None	900	63	47	41	37	13
	P03D	None	900	63	47	41	37	13
	P03E	None	900	63	47	41	37	13
	P03F	None	900	63	47	41	37	13
	P03G	None	900	63	47	41	37	13
	P03H	None	900	63	47	41	37	13
	P03J	None	900	63	47	41	37	13
	P04A	None	900	65	45	39	35	11
	P11A	None	30000	55	35	25	20	10
TO-237	R03A	TO-237-AA	900	125	95	85	75	50
	R03B	None	900	125	95	85	75	50
	R03C	None	900	125	95	85	75	50
	R03D	None	900	125	95	85	75	50
TO-226	RC03A	TO-226AE	2025	125	100	90	85	63
	RC03B	None	2025	125	100	90	85	63
	RC03C	None	2025	125	100	90	85	63
	RC03D	None	2025	125	100	90	85	63
TO-220	TA02A	TO-220-AC	8000	83	44	33	24	3
	T02D	TO-220-AA	8000	83	44	33	24	3
	T03A	None	7998	83	44	33	24	3
	TA03A	None	7998	83	44	33	24	3
	TA03B	None	8000	83	44	33	24	3
	TA03D	None	8000	83	44	33	24	3
	T03B	TO-220-AB	8000	83	44	33	24	3
	T03D	None	8000	83	44	33	24	3
	T03F	None	8000	83	44	33	24	3
	T05A	None	14762	73	43	34	24	3
	T05B	None	14762	73	43	34	24	3
	T05C	None	14762	73	43	34	24	3
	T05D	None	14762	73	43	34	24	3
	T05E	None	14762	73	43	34	24	3
	T05F	None	14762	73	43	34	24	3
	TA05A	None	14762	73	43	34	24	3
	TA05B	None	14762	73	43	34	24	3
	TA11A	None	59048	43	22	16	12	1
	TA11B	TO-220	59048	43	22	16	12	1
	TA11C	None	59048	43	22	16	12	1
	TA11D	None	59048	43	22	16	12	1
TA11E	None	59048	43	22	16	12	1	
TA12A	None	30600	41	20	14	11	1	
TA15A	None	59048	43	22	16	12	1	
TA23A	None	3060	41	20	14	11	1	
TapePak™	TP40A	None	30629	93	77	53	47	18

TABLE 2. Plastic Package Thermal Data (Continued)

Package Type	Mkt Dwg	JEDEC Spec	Typical Thermal Data					θ_{JC} (°C/W)
			Die Size (Sq mils)	θ_{JA} (°C/W) (Note 1) Flow—LFM (Linear Feet/Minute)				
				0	225	500	1000	
Plastic Pin Grid Array (PPGA)	UP124A	None	48840	74	63	54	48	26
	UP159A	None	48840	26	19	14	11	7
	UP175A	None	48840	26	19	14	11	7
Plastic Leaded Chip Carrier (PLCC)	V20A	MO-047-AA	2444	90	68	60	51	32
	V28A	MO-047-AB	14762	79	60	51	40	20
	V32A	MO-052-AE	Data Not Available at This Time					
	V44A	MO-047-AC	23864	56	43	37	31	15
	V52A	MO-047-AD	23864	50	38	33	28	14
	V68A	MO-047-AE	23864	43	32	28	24	14
	V84A	MO-047-AF	40000	37	30	25	22	12
Plastic Quad Flatpack (PQFP)	VEF44A		59048	62	51	44	39	15
	VBG48A		59048	119	110	90	80	32
	VHG80A	Pending	55900	53	40	33	28	14
	VCC80A		71316	51	43	37	32	13
	VJE80A	MO-108-BE	59048	45	38	33	30	13
	VCE100A	MO-108-CC	59048	42	37	32	28	10
	VLJ100A		59048	42	37	32	28	10
	VJG100A	Pending	59048	42	37	32	28	10
	VNG144A		124608	42	34	29	26	9
	VUL160A	Pending	108264	36	29	26	23	7
	VQL160A		108264	36	29	26	23	7
	VUW208A	Pending	108264	36	29	26	23	7
	VF132A	MO-069-AE	14762	44	38	37	29	10
	VF196A	MO-069-AG	Data Not Available at This Time					
TO-92	Z03A	TO-226-AA	225	250	210	180	160	125
	Z03B	TO-226-AA	225	250	210	180	160	125
	Z03C	TO-226-AB	961	208	180	160	150	125
	Z03D	None	961	208	180	160	150	125
	Z03E	None	961	208	180	160	150	125
	Z03G	None	961	208	180	160	150	125
	Z03H	None	961	208	180	160	150	125
	Z03J	None	961	208	180	160	150	125

Note 1: Packages are board mounted with 1W of power applied

CU — Copper

A-42 — Alloy 42

Notes

LIFE SUPPORT POLICY

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