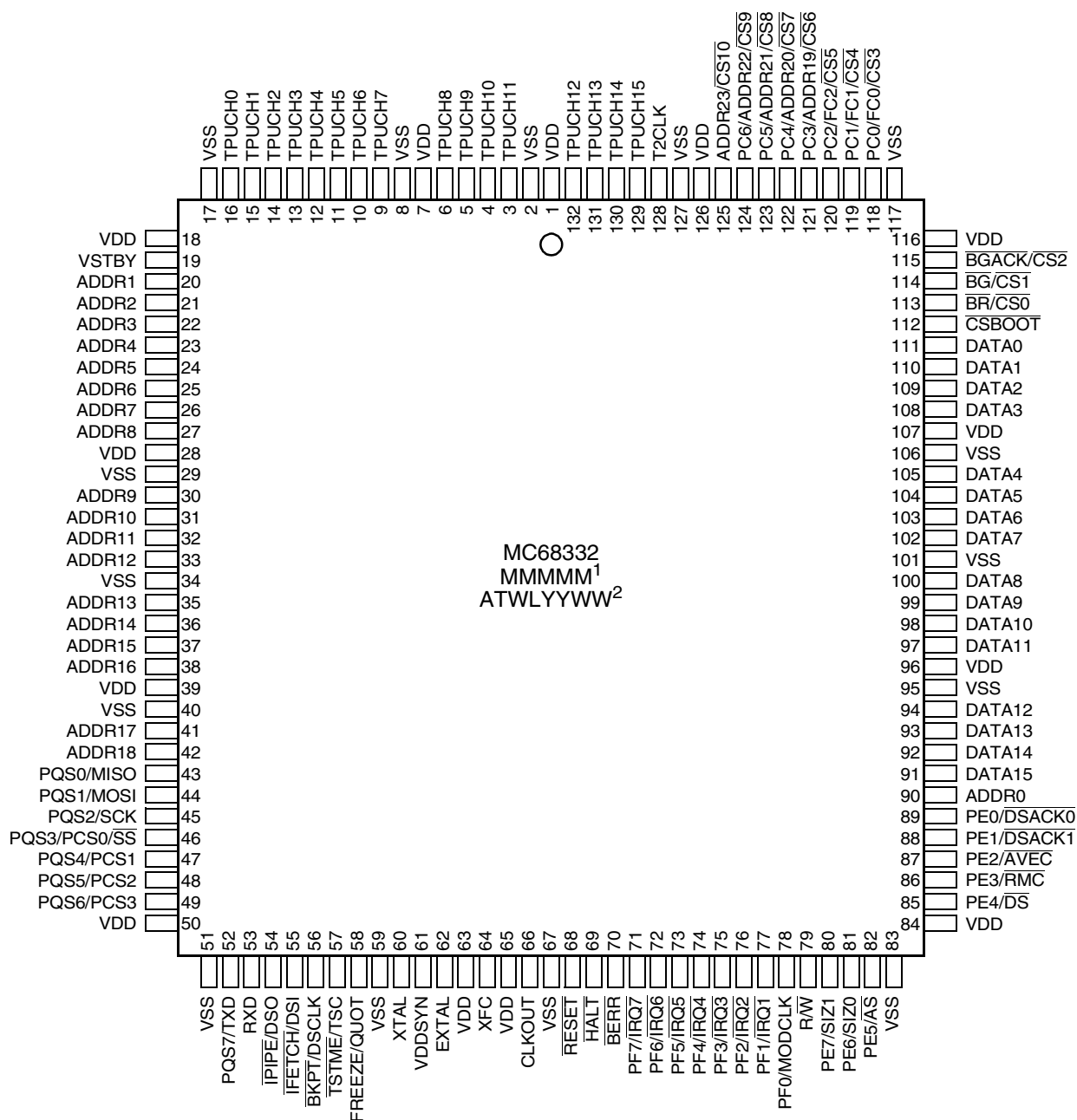




APPENDIX B

MECHANICAL DATA AND ORDERING INFORMATION

The MC68332 is available in 132- and 144-pin plastic surface mount packages. This appendix provides package pin assignment drawings, dimensional drawings, and ordering information.

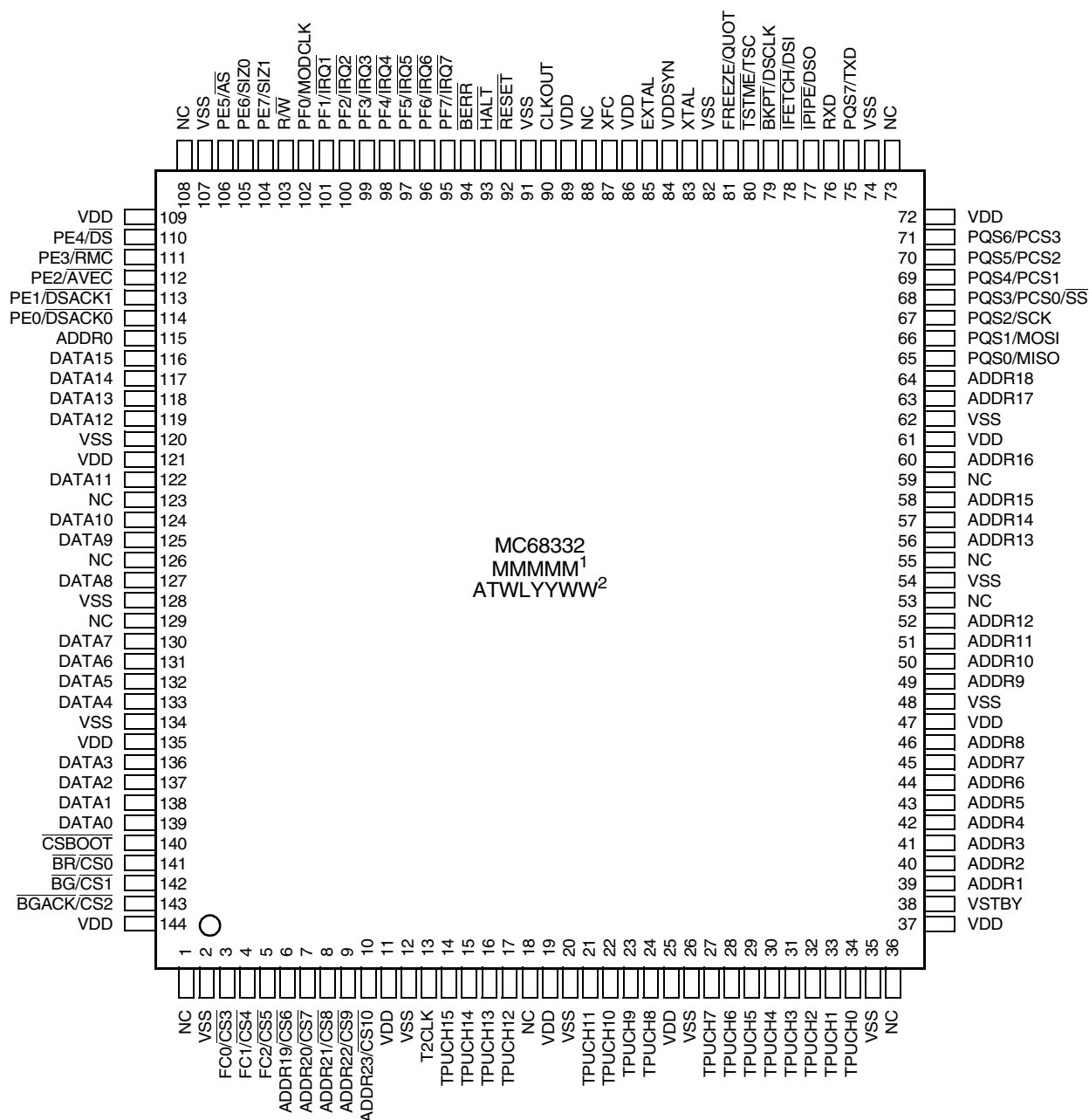


NOTES:

1. MMMMM = MASK OPTION NUMBER
2. ATWLYYWW = ASSEMBLY TEST LOCATION/YEAR, WEEK

332 132-PIN QFP

Figure B-1 MC68332 Pin Assignments for 132-Pin Package



NOTES:

1. MMMMM = MASK OPTION NUMBER
2. ATWLYYWW = ASSEMBLY TEST LOCATION/YEAR, WEEK

332 144-PIN QFP

Figure B-2 MC68332 Pin Assignments for 144-Pin Package

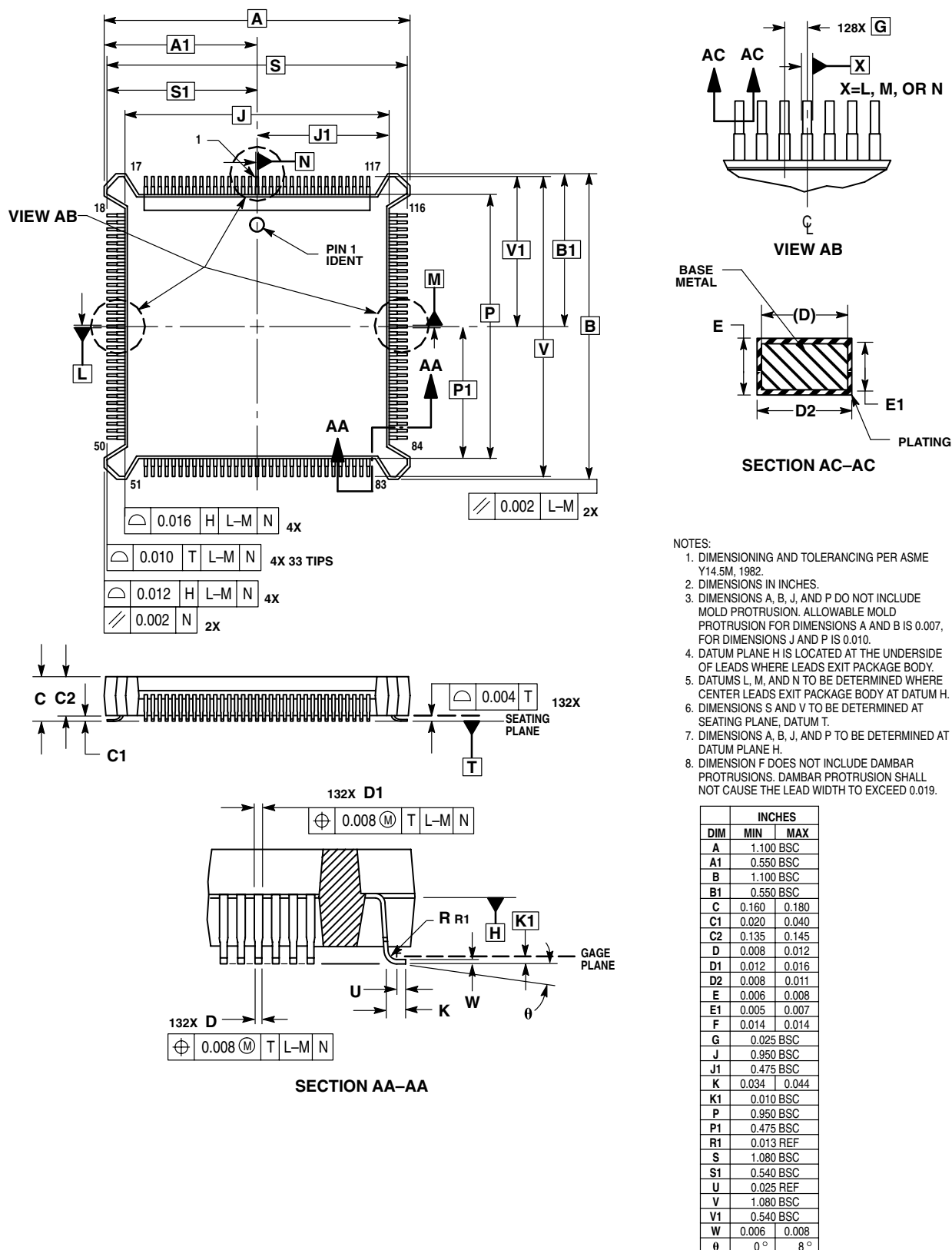
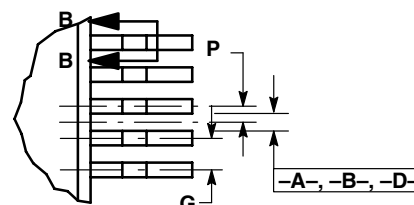
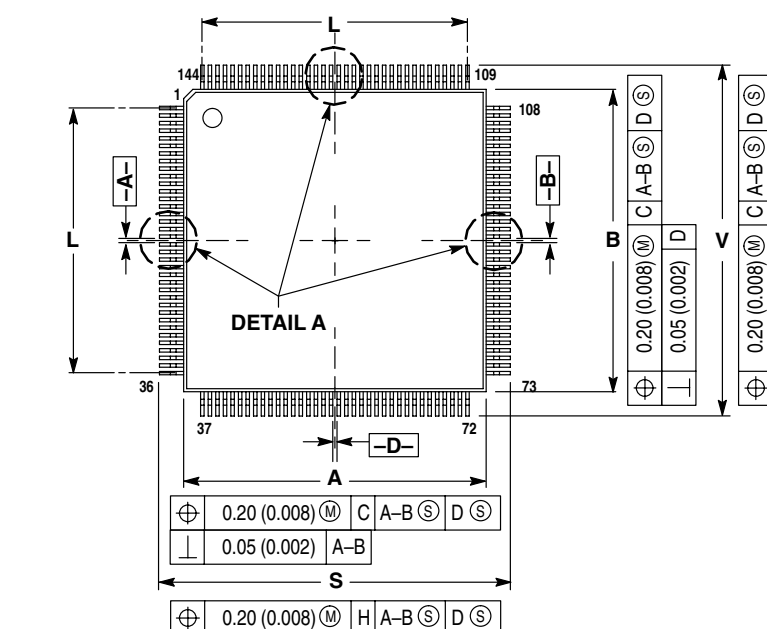


Figure B-3 132-Pin Package Dimensions —Case 831A-01



\oplus	0.20 (0.008) $\text{\textcircled{M}}$	H	A-B $\text{\textcircled{S}}$	D $\text{\textcircled{S}}$
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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DATUM PLANE --H-- IS LOCATED AT BOTTOM OF LEAD AND IS COINCIDENT WITH THE LEAD WHERE THE LEAD EXITS THE PLASTIC BODY AT THE BOTTOM OF THE PARTING LINE.
4. DATUMS --A-- , --B-- AND --D-- TO BE DETERMINED AT DATUM PLANE --H--.
5. DIMENSIONS S AND V TO BE DETERMINED AT SEATING PLANE --C--.
6. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION IS 0.25 (0.10) PER SIDE. DIMENSIONS A AND B DO INCLUDE MOLD MISMATCH AND ARE DETERMINED AT DATUM PLANE --H--.
7. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 (0.003) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	19.90	20.10	0.784	0.791
B	19.90	20.10	0.784	0.791
C	2.80	3.00	0.111	0.118
D	0.18	0.28	0.007	0.011
E	2.50	2.70	0.099	0.106
F	0.18	0.24	0.007	0.009
G	0.50 BSC		0.0197 BSC	
H	0.25	0.35	0.010	0.013
J	0.11	0.18	0.005	0.007
K	0.65	0.95	0.026	0.037
L	17.50 REF		0.689 BSC	
M	5°	9°	5°	9°
N	0.11	0.14	0.005	0.005
P	0.25 BSC		0.0098 BSC	
Q	0°	7°	0°	7°
R	0.13	0.30	0.005	0.012
S	23.00	23.40	0.906	0.921
T	0.13	—	0.006	—
U	0°	—	0°	—
V	23.00	23.40	0.906	0.921
W	0.40	—	0.016	—
Y	1.60 REF		0.063 REF	

Figure B-4 144-Pin Package Dimensions — Case 863C-01

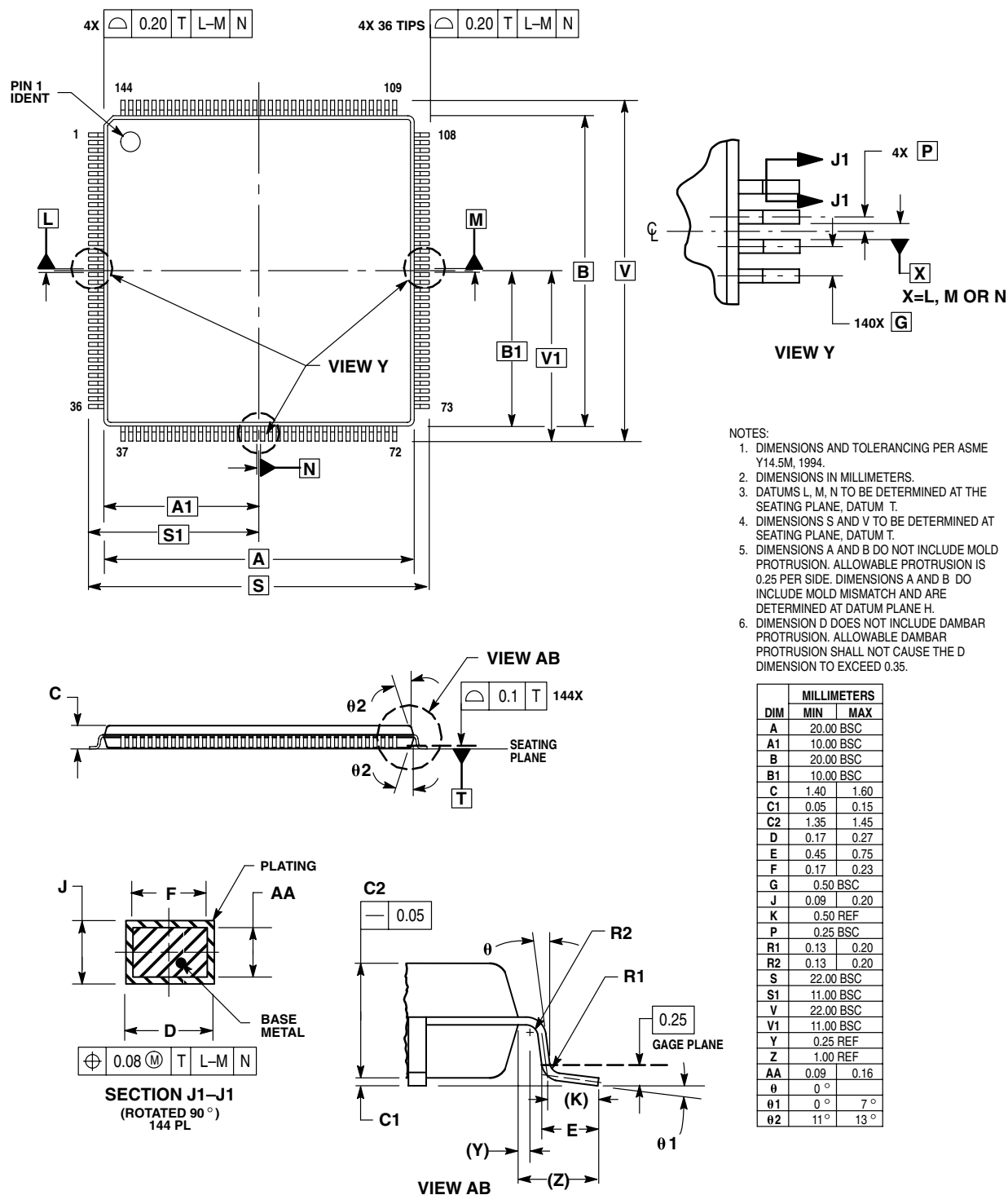


Figure B-5 144-Pin Package Dimensions Thin Quad Flat Pack — Case 918-02

B.1 Obtaining Updated MC68332 Mechanical Information



Although all devices manufactured by Motorola conform to current JEDEC standards, complete mechanical information regarding the MC68332 microcontroller is available through Motorola's Design-Net.

To download updated package specifications, perform the following steps:

1. Visit the Design-Net case outline database search engine at <http://design-net.com/cgi-bin/cases>.
2. Enter the case outline number, located in **Figure B-3**, **Figure B-4**, and **Figure B-5** without the revision code (for example, 863C, not 863C-01) in the field next to the search button.
3. Download the file with the new package diagram.

B.2 Ordering Information

Refer to **Table B-1** for MC68332 ordering information. Quantity orders for certain part numbers are shown in **Table B-2**. Contact your Motorola representative for ordering numbers.

Table B-1 MC68332 Ordering Information



Package Type	TPU Type	Temperature	Frequency (MHz)	Package Order Quantity	Order Number
132-pin PQFP	Motion Control	-40 to +85°C	16.78 MHz	2	SPAKMC332GCFC16
				36	MC68332GCFC16 ¹
			20.97 MHz	2	SPAKMC332GCFC20
				36	MC68332GCFC20 ¹
			25.17 MHz	2	
				36	
		-40 to +105°C	16.78 MHz	2	SPAKMC332GVFC16
				36	MC68332GVFC16 ¹
			20.97 MHz	2	SPAKMC332GVFC20
				36	MC68332GVFC20 ¹
			25.17 MHz	2	
				36	
		-40 to +125°C	16.78 MHz	2	SPAKMC332GMFC16
				36	MC68332GMFC16 ¹
			20.97 MHz	2	SPAKMC332GMFC20
				36	MC68332GMFC20 ¹
			25.17 MHz	2	
				36	
	Standard with enhanced PPWA	-40 to +85°C	16.78 MHz	2	SPAKMC332AVFC16
				36	MC68332AVFC16 ¹
			20.97 MHz	2	SPAKMC332AVFC20
				36	MC68332AVFC20 ¹
			25.17 MHz	2	
				36	
		-40 to +105°C	16.78 MHz	2	SPAKMC332AVFC16
				36	MC68332AVFC16 ¹
			20.97 MHz	2	SPAKMC332AMFC16
				36	MC68332AVFC20 ¹
			25.17 MHz	2	
				36	
		-40 to +125°C	16.78 MHz	2	SPAKMC332AMFC16
				36	MC68332AMFC16 ¹
			20.97 MHz	2	SPAKMC332AMFC20
				36	MC68332AMFC20 ¹
			25.17 MHz	2	
				36	

Table B-1 MC68332 Ordering Information (Continued)



Package Type	TPU Type	Temperature	Frequency (MHz)	Package Order Quantity	Order Number
144-pin QFP	Motion Control	-40 to +85°C	16.78 MHz	2	SPAKMC332GCFV16
				44	MC68332GCFV16 ¹
			20.97 MHz	2	SPAKMC332GCFV20
				44	MC68332GCFV20 ¹
			25.17 MHz	2	
				44	
		-40 to +105°C	16.78 MHz	2	SPAKMC332GVFV16
				44	MC68332GVFV16 ¹
			20.97 MHz	2	SPAKMC332GVFV20
				44	MC68332GVFV20 ¹
			25.17 MHz	2	
				44	
		-40 to +125°C	16.78 MHz	2	SPAKMC332GMFV16
				44	MC68332GMFV16 ¹
			20.97 MHz	2	SPAKMC332GMFV20
				44	MC68F332GMFV20 ¹
			25.17 MHz	2	
				44	
	Standard with enhanced PPWA	-40 to +85°C	16.78 MHz	2	SPAKMC332ACFV16
				44	MC68332ACFV16 ¹
			20.97 MHz	2	SPAKMC332ACFV20
				44	MC68332ACFV20 ¹
			25.17 MHz	2	
				44	
		-40 to +105°C	16.78 MHz	2	SPAKMC332AVFV16
				44	MC68332AVFV16 ¹
			20.97 MHz	2	SPAKMC332AVFV20
				44	MC68332AVFV20 ¹
			25.17 MHz	2	
				44	
		-40 to +125°C	16.78 MHz	2	SPAKMC332AMFV16
				44	MC68332AMFV16 ¹
			20.97 MHz	2	SPAKMC332AMFV20
				44	MC68332AMFV20 ¹
			25.17 MHz	2	
				44	

Table B-1 MC68332 Ordering Information (Continued)



Package Type	TPU Type	Temperature	Frequency (MHz)	Package Order Quantity	Order Number
144-pin TQFP	Motion Control	-40 to +85°C	16.78 MHz	2	SPAKMC332GCPV16
				60	MC68332GCPV16 ¹
			20.97 MHz	2	SPAKMC332GCPV20
				60	MC68332GCPV20 ¹
			25.17 MHz		
		-40 to +105°C	16.78 MHz	2	SPAKMC332GVPV16
				60	MC68332GVPV16 ¹
			20.97 MHz	2	SPAKMC332GVPV20
				60	MC68332GVPV20 ¹
			25.17 MHz		
		-40 to +125°C	16.78 MHz	2	SPAKMC332GMPV16
				60	MC68332GMPV16 ¹
			20.97 MHz	2	SPAKMC332GMPV20
				60	MC68332GMPV20 ¹
			25.17 MHz		
	Standard with enhanced PPWA	-40 to +85°C	16.78 MHz	2	SPAKMC332ACPV16
				60	MC68332ACPV16 ¹
			20.97 MHz	2	SPAKMC332ACPV20
				60	MC68332ACPV20 ¹
			25.17 MHz		
		-40 to +105°C	16.78 MHz	2	SPAKMC332AVPV16
				60	MC68332AVPV16 ¹
			20.97 MHz	2	SPAKMC332AVPV20
				60	MC68332AVPV20 ¹
			25.17 MHz		
		-40 to +125°C	16.78 MHz	2	SPAKMC332AMPV16
				60	MC68332AMPV16 ¹
			20.97 MHz	2	SPAKMC332AMPV20
				60	MC68332AMPV20 ¹
			25.17 MHz		

NOTES:

1. Refer to [Table B-2](#).

Table B-2 Quantity Order Suffix

FC	FV	PV
36	44	60
180	220	300



