

# PIN GRID ARRAY SOCKETS

MPAS, MVAS, MHAS, MSAS

Mates with:  
MPAT, MVAT, MHAT, MSAT

## SPECIFICATIONS

For complete specifications see [www.samtec.com?MPAS](http://www.samtec.com?MPAS) or [www.samtec.com?MVAS](http://www.samtec.com?MVAS)

**MPAS, MVAS**  
Insulator Material: Black G.F. Polyester



Contact: BeCu  
Shell: Brass except Style K Phosphor Bronze  
Operating Temp Range: -55°C to +105°C with Tin -55°C to +125°C with Gold  
Plating: Au over 50µ" (1,27µm) Ni or Sn over 100µ" (2,58µm) Cu or 50µ" (1,27µm) Ni  
Current Rating: 1A  
Contact Resistance: 10mΩ max

Lead Size Range: .015" (0,38mm) to .022" (0,56mm) DIA except Style ZL = .015" (0,38mm) to .020" (0,51mm) DIA; ZM = .016" (0,41mm) to .021" (0,53mm) DIA; ZN = .016" (0,41mm) to .020" (0,51mm) DIA

Insertion Force: (Single contact only) Style ZU = 1.5oz (0,42N) max, all others = 2.5 oz (0,69N) avg, 5.5 oz (1,53N) max, except Styles J & K = 9 oz (2,50N) avg, 16 oz (4,45N) max

Withdrawal Force: (Single contact only) Style ZU = 1.5oz (0,42N) max, all others = 2.0 oz (0,56N) avg, 0.35 oz (0,97N) min, except Styles J & K = 2.5 oz (0,69N) avg, 1.5 oz (0,42N) min

Lead-Free Solderable: Wave, only

## SPECIFICATIONS

For complete specifications see [www.samtec.com?MHAS](http://www.samtec.com?MHAS)

**MHAS**  
Same as MPAS except:  
Insulator Material: Black High Temp. Plastic



## SPECIFICATIONS

For complete specifications see [www.samtec.com?MSAS](http://www.samtec.com?MSAS)

**MSAS**  
Same as MPAS except:  
Insulator Material: Black Liquid Crystal Polymer  
Max Processing Temp: 230°C for 30 to 60 seconds



BODY STYLE	PIN COUNT	LEAD STYLE	PLATING OPTION	PIN OUT CODE	OPTION
<p><b>MPAS</b> = Standard Polyester</p> <p><b>MVAS</b> = Open Body Polyester</p> <p><b>MSAS</b> = Hi-Temp LCP Open Body</p>	<p>— "XXX"</p> <p>= Total Number of Filled Positions</p>	<p><b>GG</b> = 30µ" (0,76µm) Gold Contact, 10µ" (0,25µm) Gold Shell</p> <p><b>GT</b> = 30µ" (0,76µm) Gold Contact, Tin Shell</p> <p><b>TT</b> = Tin Contact and Shell (Styles -ZS &amp; ZW Only)</p> <p><b>ST</b> = 10µ" (5,08µm) Gold Contact, Tin Shell (Style -ZS only)</p>	<p><b>-2</b> = (9,14).360 Wire-Wrap (-ZW Only)</p> <p><b>-3</b> = (6,60).260 Wire-Wrap (-ZW Only)</p> <p><b>-L</b> = Locking Socket (-ZS Only)</p>	<p><b>ALSO AVAILABLE</b></p> <p>RoHS compliant options. Call Samtec.</p>	<p><b>NEW!</b></p> <p><b>Ultra-LIF</b></p> <p>1.5oz (0,42N) Max Insertion Force 45g (0,44N) Normal Force Specify Style -ZU</p>

Note: Some sizes, styles and options are non-standard, non-returnable.

## -ZS, -ZU, -ZA, -J, -K = Printed Circuit

Locking lead (-L) available. See OPTION.

LEAD STYLE	X DIA	Y TAIL	Z OAL
-ZS, -ZU	(0,51) .020	(3,18) .125	(7,62) .300
-ZA	(0,51) .020	(4,57) .180	(8,89) .350
-J	(0,64) .025	(10,41) .410	(15,24) .600
-K	(0,89) .035	(12,95) .510	(17,86) .703

Insertion Depth = .095" to .145", Style ZS Component Part No. = EZ-1P1  
Style ZA Component Part No. = EZ-6P1  
Option L Component Part No. = SC-1L1 or EZ-1L1  
Insertion Depth = .095" to .138", Style J Component Part No. = SC-1P3  
Insertion Depth = .095" to .157", Style K Component Part No. = SC-2P1

## -ZW = Wire-Wrap

MHAS NOT AVAILABLE Shorter w/w tail lengths available. See OPTION.

Insertion Depth = .125" to .157"  
Style ZW Component Part No. = EZ-1W(1)  
Style ZW-2 Component Part No. = EZ-1W(2)  
Style ZW-3 Component Part No. = EZ-1W(3)

## -ZE or -ZH = Elevated

LEAD STYLE	X DIA	W TAIL	Y	Z OAL
-ZE	(0,51) .020	(4,32) .170	(8,86) .349	(13,77) .542
-ZH	(0,46) .018	(3,81) .150	(12,95) .510	(17,86) .703

MHAS NOT AVAILABLE  
Insertion Depth = .125" to .170"  
Style ZE Component Part No. = EZ-2P3  
Insertion Depth = .125" to .145"  
Style ZH Component Part No. = EZ-2P2

## -ZL = Low Profile

Insertion Depth = .105" to .170"  
Component No. = EZ-3P1

## -ZM = Low Profile

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Insertion Depth = .080" to .105"  
Component No. = EZ-4P1

## -ZN or ZC = Micro Socket

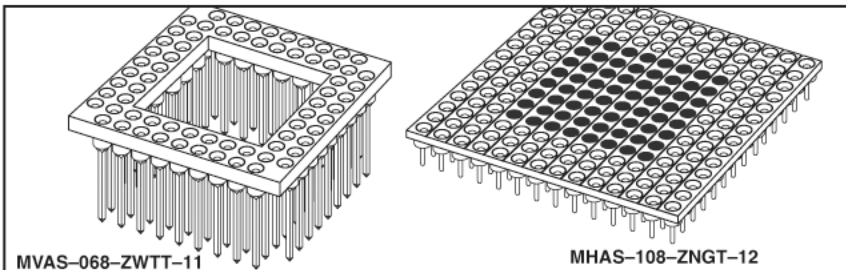
MHAS & CHAS SERIES ONLY.

LEAD STYLE	X DIA	W HEAD	Y	Z OAL
-ZN	(0,76) .030	(0,51) .020	(2,41) .095	(4,83) .190
-ZC	(0,74) .029	(0,25) .010	(2,11) .083	(4,19) .165

ZN Insertion Depth = .080" to .150"  
ZN Component No. = EZ-5P1  
ZC Insertion Depth = .080" to .140"  
ZC Component No. = EZ-6P1

Due to technical progress, all designs, specifications and components are subject to change without notice.

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**MORE STANDARD PIN-OUTS AVAILABLE.  
CALL SAMTEC.**

<p><b>-21=273 Pins</b></p> <p>MSAS only.</p>	<p><b>-18=191 Pins</b></p> <p>MSAS only.</p>	<p><b>-18=179 Pins</b></p> <p>MSAS only.</p>	<p><b>-17=240 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-17=209 Pins</b></p> <p>MSAS not available.</p>
<p><b>-17=169 Pins</b></p> <p>MSAS only.</p>	<p><b>-17=168 Pins</b></p> <p>MSAS only.</p>	<p><b>-16=172 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-16=156 Pins</b></p> <p>MSAS only.</p>	<p><b>-15=181 Pins</b></p> <p>MVAS not available.</p>
<p><b>-15=176 Pins</b></p> <p>MSAS not available.</p>	<p><b>-15B=149 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-15=145 Pins</b></p> <p>MVAS not available.</p>	<p><b>-14=132 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-13A=133 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>
<p><b>-13B=132 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-13A=124 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-13A=121 Pins</b></p> <p>MSAS not available.</p>	<p><b>-13=114 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-13=101 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>
<p><b>-11=085 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-11C=084 Pins</b></p> <p>MSAS not available.</p>	<p><b>-11=069 Pins</b></p> <p>MSAS not available.</p>	<p><b>-11=068 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>	<p><b>-10=084 Pins</b></p> <p>MVAS &amp; MSAS not available.</p>
<p><b>-10=068 Pins</b></p> <p>MSAS not available.</p>				

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