

# 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 Glass Filled Polyester  
**Operating Temp Range:** -65°C to +105°C with Tin  
-65°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:** BeCu  
**Shell:** Brass except Style K Phosphor Bronze  
**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:** 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:** 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



BODY STYLE	PIN COUNT	LEAD STYLE	PLATING OPTION	PIN OUT CODE	OPTION
<b>MPAS</b> = Standard Polyester <b>MVAS</b> = Open Body Polyester <b>MSAS</b> = Hi-Temp LCP Open Body 	- "XXX" = Total Number Of Filled Positions	<b>GG</b> = 30µ" (0,76µm) Gold Contact 10µ" (0,25µm) Gold Shell <b>GT</b> = 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Shell <b>TT</b> = 200µ" (5,08µm) Tin Contact and Shell (Styles -ZS & -ZW Only) <b>ST</b> = 10µ" (5,08µm) Gold Contact 200µ" (5,08µm) Tin Shell (Style -ZS only)	<b>-2</b> = (9,14),360 Wire-Wrap (-ZW Only) <b>-3</b> = (6,60),260 Wire-Wrap (-ZW Only) <b>-L</b> = Locking Socket (-ZS Only)	Requires GT Plating Option	

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



## 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



## SPECIFICATIONS

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

### MHAS

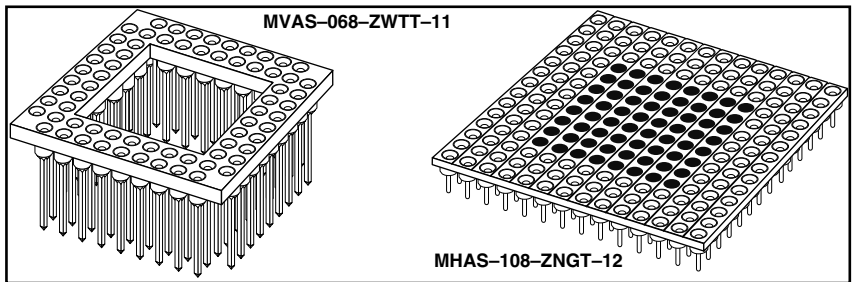
Same as MPAS except:  
**Insulator Material:** Black High Temp. Plastic



-ZS, -ZU, -ZA, -J, -K = Printed Circuit	-ZW = Wire-Wrap	-ZE or -ZH = Elevated																																			
Locking lead (-L) available. See OPTION. <table border="1"> <thead> <tr> <th>LEAD STYLE</th> <th>X DIA</th> <th>Y TAIL</th> <th>Z OAL</th> </tr> </thead> <tbody> <tr> <td>-ZS, -ZU</td> <td>(0,51) 0,020</td> <td>(3,18) 1,125</td> <td>(7,62) 3,000</td> </tr> <tr> <td>-ZA</td> <td>(0,51) 0,020</td> <td>(4,57) 1,800</td> <td>(8,89) 3,500</td> </tr> <tr> <td>-J</td> <td>(0,64) 0,025</td> <td>(10,41) 4,100</td> <td>(15,24) 6,000</td> </tr> <tr> <td>-K</td> <td>(0,89) 0,035</td> <td>(12,95) 5,100</td> <td>(17,86) 7,000</td> </tr> </tbody> </table> Insertion Depth = .095" to .145" Style ZS Component Part No. = EZ-1P1 Style ZU 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	LEAD STYLE	X DIA	Y TAIL	Z OAL	-ZS, -ZU	(0,51) 0,020	(3,18) 1,125	(7,62) 3,000	-ZA	(0,51) 0,020	(4,57) 1,800	(8,89) 3,500	-J	(0,64) 0,025	(10,41) 4,100	(15,24) 6,000	-K	(0,89) 0,035	(12,95) 5,100	(17,86) 7,000	MHAS NOT AVAILABLE Shorter w/w tail lengths available. See OPTION. Insertion Depth = .125" to .157" Style ZW Component Part No. = EZ-1W1(1) Style ZW-2 Component Part No. = EZ-1W1(2) Style ZW-3 Component Part No. = EZ-1W1(3)	<table border="1"> <thead> <tr> <th>LEAD STYLE</th> <th>X DIA</th> <th>W TAIL</th> <th>Y</th> <th>Z OAL</th> </tr> </thead> <tbody> <tr> <td>-ZE</td> <td>(0,51) 0,020</td> <td>(4,32) 1,700</td> <td>(8,86) 3,490</td> <td>(13,77) 5,420</td> </tr> <tr> <td>-ZH</td> <td>(0,46) 0,018</td> <td>(3,81) 1,500</td> <td>(12,95) 5,100</td> <td>(17,86) 7,000</td> </tr> </tbody> </table> 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	LEAD STYLE	X DIA	W TAIL	Y	Z OAL	-ZE	(0,51) 0,020	(4,32) 1,700	(8,86) 3,490	(13,77) 5,420	-ZH	(0,46) 0,018	(3,81) 1,500	(12,95) 5,100	(17,86) 7,000
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-ZL = Low Profile	-ZM = Low Profile	-ZN or ZC = Micro Socket	-ZP or ZT = Short Tail																																		
Insertion Depth = .105" to .170" Component No. = EZ-3P1	MHAS & CHAS SERIES ONLY. Insertion Depth = .080" to .105" Component No. = EZ-4P1	MHAS & CHAS SERIES ONLY. ZN Insertion Depth = .080" to .150" ZN Component No. = EZ-5P1 ZC Insertion Depth = .080" to .140" ZC Component No. = EZ-8P1	<table border="1"> <thead> <tr> <th>LEAD STYLE</th> <th>W HEAD</th> <th>Z OAL</th> </tr> </thead> <tbody> <tr> <td>-ZP</td> <td>(0,76) 0,030</td> <td>(5,08) 200</td> </tr> <tr> <td>-ZT</td> <td>(0,51) 0,020</td> <td>(4,24) 167</td> </tr> </tbody> </table> ZP Insertion Depth = .125" to .145" ZP Component No. = EZ-1M1 ZT Insertion Depth = .080" to .105" ZT Component No. = EZ-1M2	LEAD STYLE	W HEAD	Z OAL	-ZP	(0,76) 0,030	(5,08) 200	-ZT	(0,51) 0,020	(4,24) 167																									
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Due to technical progress, all designs, specifications and components are subject to change without notice.

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**MORE STANDARD PIN-OUTS AVAILABLE.  
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<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 not available.</p>	<p><b>-17 =168 Pins</b></p> <p>MSAS not available.</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>-13 =169 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>-13 =088 Pins</b></p> <p>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 =068 Pins</b></p> <p>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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