

SPECIFICATIONS:

MATERIAL:-

INSULATOR: POLYAMIDE 9T, UL94V-0  
COLOR: BLACK

CONTACT: PHOSPHOR BRONZE

FINISH:-

1.3um TIN, 2.5~4um NICKEL UNDERPLATE

FOR COMPLETE SPECIFICATION, SEE COMPONENT SPECIFICATION IF AVAILABLE.

NOTES: ALL DIMENSIONS AND NOTES MARKED \* ARE CRITICAL AND MUST BE CHECKED IN ACCORDANCE WITH QUALITY DOC. Q1-02A

TOLERANCES  
X.X = ±0.25mm  
X.XX = ±0.13mm

RECOMMENDED PCB LAYOUT

M/H	TYPE	H	J	K
2.0	01		1.62	
2.5		05		2.6
3.0	02		2.00	
3.5				
4.0				
5.0				
6.0	04	1.00	3.00	2.6
7.0				
8.0				
9.0				
10.0				
11.0				
4.5				
5.5				
6.5				
7.5	05	1.50	3.50	3.6
8.5				
9.5				
10.5				
11.5				
12.0				
13.0	06	7.00	10.00	2.54
14.0				
15.0				
16.0				
17.0				
12.5				
13.5	07	7.50	10.50	2.54
14.5				
15.5				
16.5				
17.5				

TOTAL NO. OF WAYS	A	B	C	D
10	2.0	5.0	4.0	2.5
12	2.5	5.5	4.5	3.0
14	3.0	6.0	5.0	3.5
16	3.5	6.5	5.5	4.0
18	4.0	7.0	6.0	4.5
20	4.5	7.5	6.5	5.0
22	5.0	8.0	7.0	5.5
24	5.5	8.5	7.5	6.0
26	6.0	9.0	8.0	6.5
28	6.5	9.5	8.5	7.0
30	7.0	10.0	9.0	7.5
32	7.5	10.5	9.5	8.0
34	8.0	11.0	10.0	8.5
36	8.5	11.5	10.5	9.0
38	9.0	12.0	11.0	9.5
40	9.5	12.5	11.5	10.0
42	10.0	13.0	12.0	10.5
44	10.5	13.5	12.5	11.0
46	11.0	14.0	13.0	11.5
48	11.5	14.5	13.5	12.0
50	12.0	15.0	14.0	12.5
52	12.5	15.5	14.5	13.0
54	13.0	16.0	15.0	13.5
56	13.5	16.5	15.5	14.0
58	14.0	17.0	16.0	14.5
60	14.5	17.5	16.5	15.0

TOTAL NO. OF WAYS	A	B	C	D
62	15.0	18.0	17.0	15.5
64	15.5	18.5	17.5	16.0
66	16.0	19.0	18.0	16.5
68	16.5	19.5	18.5	17.0
70	17.0	20.0	19.0	17.5
72	17.5	20.5	19.5	18.0
74	18.0	21.0	20.0	18.5
76	18.5	21.5	20.5	19.0
78	19.0	22.0	21.0	19.5
80	19.5	22.5	21.5	20.0
82	20.0	23.0	22.0	20.5
84	20.5	23.5	22.5	21.0
86	21.0	24.0	23.0	21.5
88	21.5	24.5	23.5	22.0
90	22.0	25.0	24.0	22.5
92	22.5	25.5	24.5	23.0
94	23.0	26.0	25.0	23.5
96	23.5	26.5	25.5	24.0
98	24.0	27.0	26.0	24.5
100	24.5	27.5	26.5	25.0
110	27.0	30.0	29.0	27.5
120	29.5	32.5	31.5	30.0
130	32.0	35.0	34.0	32.5
140	34.5	37.5	36.5	35.0
150	37.0	40.0	39.0	37.5
160	39.5	42.5	41.5	40.0

Allan	13	11.09.09	A235
Allan	12	21.08.09	A231
Allan	11	06.08.09	A227
Allan	10	27.08.08	A158
Allan	9	27.06.08	A137
Allan	8	04.03.08	A116

NAME	ISS.	DATE	C/NOTE
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APPROVED: \_\_\_\_\_  
CHECKED: *Pan*

DRAWN: Allan

CUSTOMER REF.:

ASSEMBLY DRG:

ORDER CODE  
**M402VM-3- XXX - XX NR**  
TOTAL NO. OF PINS  $\sqrt{13}$  TYPE (REFER TO TABLE)

**HARWIN**

HARWIN USA  
TEL: 603 893 5376  
FAX: 603 893 5396  
mis@harwin.com

HARWIN Europe (UK)  
TEL: 023 9231 4545  
FAX: 023 9231 4590  
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HARWIN Asia  
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FAX: +65 6 779 3868  
mis@harwin.com.sg

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TOLERANCES  
X. = ±1mm  
X.X = ±0.25mm  
X.XX = ±0.10mm  
X.XXX = ±0.01mm  
ANGLES = ±5°  
UNLESS STATED

MATERIAL: SEE NOTES  
FINISH: SEE NOTES  
S/AREA: mm<sup>2</sup>

TITLE:  
M402V SERIES 0.5 BOARD TO BOARD SMT V/T TYPE MALE  
DRAWING NUMBER:  
M402VM-3- XXX - XX NR  
SHT 1 OF 3

TOTAL NO. OF WAYS	TYPE	11					
		01	02	04	05	06	07
10		●	●	●	●	○	○
12		●	●	●	●	○	○
14		●	●	●	●	○	○
16		●	●	●	○	○	○
18		○	○	●	●	○	○
20		●	●	●	○	○	○
22		○	●	●	○	○	○
24		●	●	●	●	○	○
26		●	○	●	●	○	○
28		●	●	●	●	○	○
30		●	●	●	●	●	○
32		●	●	●	○	○	○
34		●	●	○	●	○	○
36		●	●	●	○	○	○
38	12	○	○	●	○	○	○
40		●	●	●	●	○	○
42		○	○	○	○	○	○

TOTAL NO. OF WAYS	TYPE	11					
		01	02	04	05	06	07
44		●	○	○	●	○	○
46	13	○	○	●	●	○	○
48		○	○	○	○	○	○
50		●	●	●	●	○	○
52		○	○	○	●	○	○
54		○	○	○	○	○	○
56		○	○	○	○	○	○
58		○	○	○	○	○	○
60		●	●	●	●	○	○
62		○	○	○	○	○	○
64		○	○	○	○	○	○
66		○	○	○	○	○	○
68		○	○	●	●	○	○
70		○	●	○	○	○	○
72		○	○	○	○	○	○
74		○	○	○	○	○	○
76		○	○	○	○	○	○

TOTAL NO. OF WAYS	TYPE	11					
		01	02	04	05	06	07
78		○	○	○	○	○	○
80		●	●	●	●	○	○
82		○	○	○	○	○	○
84		○	○	○	○	○	○
86		○	○	○	○	○	○
88		○	○	○	○	○	○
90		○	○	○	○	●	○
92		○	○	○	○	○	○
94		○	○	○	○	○	○
96		○	○	○	○	○	○
98		○	○	○	○	○	○
100		○	○	○	○	○	○
110		○	○	○	○	○	○
120		○	○	○	○	○	○
130		○	○	○	○	○	○
140		○	○	○	○	○	○
150		○	○	○	○	○	○
160		○	○	○	○	○	○

● - MOULDS AVAILABLE  
 ○ - MOULDS UPON REQUEST.  
 PLEASE REFER TECHNICAL SALES

Allan	13	11.09.09	A235
Allan	12	21.08.09	A231
Allan	11	06.08.09	A227
Allan	10	27.08.08	A158
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Allan	8	04.03.08	A116

NAME	ISS.	DATE	C/NOTE
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APPROVED: \_\_\_\_\_

CHECKED: *Ben*

DRAWN: Allan

CUSTOMER REF.:

ASSEMBLY DRG:

ORDER CODE  
**M402VM-3- XXX - XX NR**  
 TOTAL NO. OF PINS  $\triangle$  TYPE (REFER TO TABLE)



HARWIN USA  
 TEL: 603 893 5376  
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 mis@harwin.com

HARWIN Europe (UK)  
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 FAX: 023 9231 4590  
 mis@harwin.co.uk

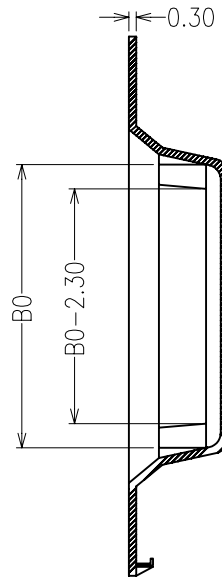
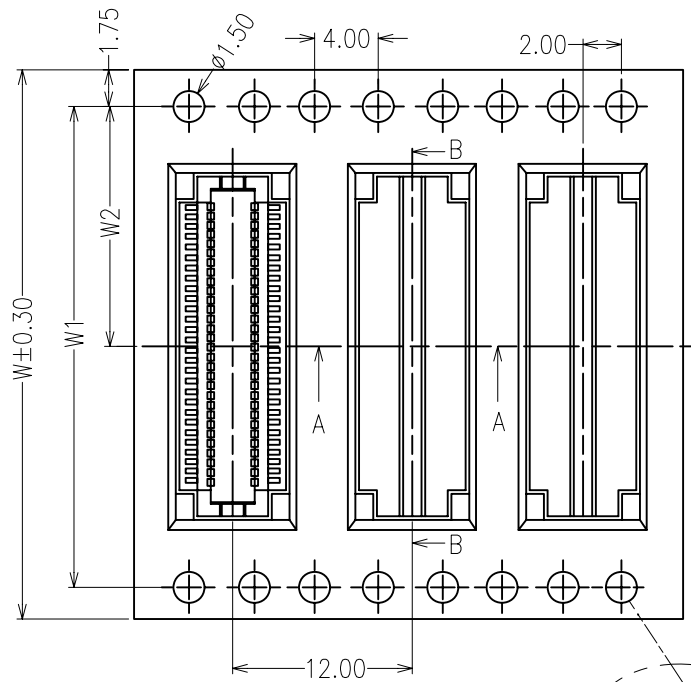
HARWIN Asia  
 TEL: +65 6 779 4909  
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 mis@harwin.com.sg

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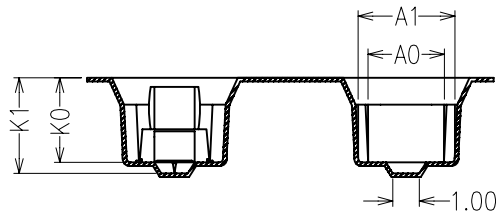
TOLERANCES  
 X. = ±1mm  
 X.X = ±0.25mm  
 X.XX = ±0.10mm  
 X.XXX = ±0.01mm  
 ANGLES = ±5°  
 UNLESS STATED

MATERIAL: SEE NOTES  
 FINISH: SEE NOTES  
 S/AREA: mm<sup>2</sup>

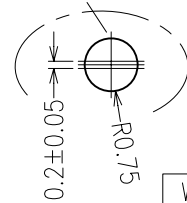
TITLE:  
**M402V SERIES 0.5 BOARD TO BOARD SMT V/T TYPE MALE**  
 DRAWING NUMBER:  
**M402VM-3- XXX - XX NR**  
 SHT 2 OF 3



SECTION B-B



SECTION A-A



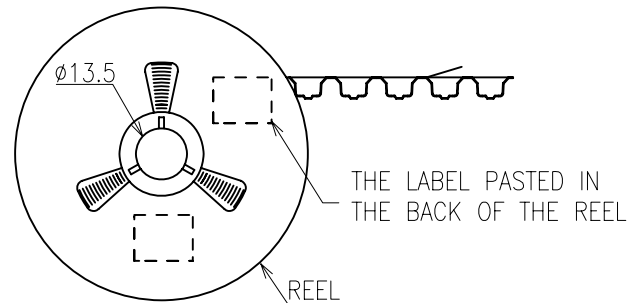
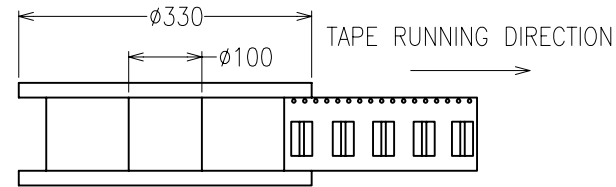
W	W1	W2
16		7.50
24		11.50
32	28.40	14.20
44	40.40	20.20
56	52.40	26.20

CKT	10	14	18	22	26	30	34	38	42	46
PIN	10 12	14 16	18 20	22 24	26 28	30 32	34 36	38 40	42 44	46 48
W	016	016	016	016	024	024	024	024	024	024
B0	5.75	6.75	7.75	8.75	9.75	10.75	11.75	12.75	13.75	14.75

CKT	50	54	58	62	66	70	74	78	82	86
PIN	50 52	54 56	58 60	62 64	66 68	70 72	74 76	78 80	82 84	86 88
W	024	032	032	032	032	032	044	044	044	044
B0	15.75	16.75	17.75	18.75	19.75	20.75	21.75	22.75	23.75	24.75

CKT	90	94	98	B0	C0	D0	E0	F0	G0
PIN	90 92	94 96	98 A0	B0	C0	D0	E0	F0	G0
W	044	044	044	044	056	056	056	056	056
B0	25.75	26.75	27.75	30.25	32.75	35.25	37.75	40.25	42.75

ITEM	A0	A1	K0	K1	PITCH	PCS/REEL
DIM	4.30	6.00	3.30	3.90	12.00	1500



Allan	13	11.09.09	A235
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Allan	9	27.06.08	A137
Allan	8	04.03.08	A116

NAME	ISS.	DATE	C/NOTE

APPROVED: \_\_\_\_\_

CHECKED: *Poon*

DRAWN: Htut htut

CUSTOMER REF.:

ASSEMBLY DRG:

NOTES:

- 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE  $\pm 0.20$
- CARRIER CAMBER IS WITHIN 1MM IN 250MM
- MATERIAL: BLACK CONDUCTIVE POLYSTYRENE ALLOY

**HARWIN**

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TOLERANCES  
X. =  $\pm 1$ mm  
X.X =  $\pm 0.20$ mm  
X.XX =  $\pm 0.10$ mm  
X.XXX =  $\pm 0.01$ mm  
ANGLES =  $\pm 0^{\circ}30'$   
UNLESS STATED

MATERIAL: SEE NOTES  
FINISH: SEE NOTES  
S/AREA: mm<sup>2</sup>

TITLE:  
M402V SERIES 0.5 BOARD TO BOARD  
SMT V/T TYPE MALE

DRAWING NUMBER:  
M402VM-3- XXX - XX NR