



<p>Tolerances Except as Noted .x = +/- .05 .xx = +/- .01 .xxx = +/- .005 Dimensions in inches</p>	<b>Revisions</b>				<b><u>Impellimax</u></b>		
	A	ECO 2256	3/11/03	PC	<b>OUTLINE</b>		
<p>Information herein is believed accurate. Suitability not guaranteed.</p>						Sheet 1 of 4	
					<p>Drawn By: Y W</p> <p>DRF: 106</p>	<p>Date: 3/11/03</p> <p>Approved: PC</p>	<p>Drawing # <b>9341-50</b></p>

## PIN CONNECTIONS

PIN	CONNECTION	PIN	CONNECTION
1	+ 5 V	22	NC
2	E1	21	Output 1A
3	E2	20	Output 1B
4	NC	19	Output 2A
5	NC	18	NC
6	Ground	17	Output 2B
7	NC	16	NC
8	NC	15	Output 3A
9	NC	14	NC
10	NC	13	Output 3B
11	- 5 V	12	NC

**Notes:**

- 1) Inputs are direct connection to 54LS138 IC.
- 2) Each output provides +/- 15 mA nominal (+1, -2 mA) per output, for a total of +/- 30 mA per channel nominal.
- 3) Switching speed is 200 nsec maximum.
- 4) Unit is reverse bias protected.
- 5) Supply voltage: +5V @ 25 mA max quiescent, 20 mA typ  
(35 mA max @ +80 degrees C)  
-5V @ 5 mA max quiescent, 3 mA typ

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					106	P C	

## LOGIC TABLE

E1	E2	1A, B	2A, B	3A, B
0	0	+	+	+
1	0	-	+	+
0	1	+	-	+
1	1	+	+	-

## MATERIALS

**CASE:** Gold plated kovar with fired in glass seals.

**SUBSTRATE:** Alumina substrate TaN/TiW/Au per SMT p/n 558-1120-111  
or 558-1121-111.

**SOLDERS:** AuSn (lid to case).

**EPOXIES:** 84-1LMI silver epoxy (die attach).

**BOND WIRES:** Aluminum 99%, Si 1%, .00125 Dia.

All wedge bonds will be performed after plasma ion etch  
(due to 84-1LMI contaminants).

Bond wires are to be redundant when possible.

**DEVICES:** 54LS138 - TTL Decoder  
2N3904 - NPN Transistor  
2N3906 - PNP Transistor  
CD5711 - Clamp (Sprague)  
CD5819 - Power Schottky (reverse voltage prot.)  
.01 uF - Bypass capacitor (Novacap or Johanson)

All devices per MIL-STD-883C, Class B, MIL-STD-750 screened.

**BRANDING:** Hysol Wornow M-O-N with catalyst B3 Part to be marked with  
SMT part number.

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## SCREENING

<b>Internal Visual</b>	<b>Method 2017</b>	
<b>Vacuum Stab Bake</b>	<b>Method 1008</b>	<b>150 degrees C for 16 hours</b>
<b>Lid Seal</b>	<b>Nitrogen backfill</b>	
<b>Burn In</b>	<b>Method 1015</b>	<b>125 degrees C for 96 hours</b>
<b>Temp Cycle</b>	<b>Method 1010</b>	<b>-54 degrees C to +125 degrees C 10 cycles</b>
<b>Constant Acceleration</b>	<b>Method 1010</b>	<b>test cond A Y1 axis only 7500g</b>
<b>Gross Leak</b>	<b>Method 1014</b>	
<b>Fine Leak</b>	<b>Method 1014</b>	<b>reject &gt; 5x10<sup>-8</sup> ATM cc/sec</b>
<b>External Visual</b>	<b>Method 2009</b>	

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