Model H12489
180° Hybrids Surface Mount (SMT) & Drop-In

PRODUCT DATA SHEET **H12489**

Werlatone® High Power 180° RF Hybrid Combiners/Dividers balance traditional technologies with disruptive microwave techniques. The outcome is a microwave component which provides an order of magnitude improvement over current capabilities. Our newest line of high power, patented 180° RF Hybrid Combiners/Dividers provides an incredible 5:1 bandwidth, while exhibiting exceptionally low loss and superior port-to-port isolation.

Features:

High Power Wide Bandwidths Small Size Excellent Amplitude Balance

Electrical Specifications:

Frequency:	2000 - 6000 MHz
Power:	150 W CW
Insertion Loss:	0.65 dB Max.
VSWR:	1.50:1 Max.
Phase Balance:	180° ± 8° Max.
Amplitude Balance:	± 0.4 dB Max.
Isolation:	20 dB Min.

Mechanical Specifications:

Type:	Connectorized
Material:	Aluminum 6061-T6
Plating Options:	H12489-Ag: Immersion Silver (RoHS)
Operating Temperature:	-55°C to +75°C
Storage Temperature:	-60°C to +85°C
Size:	1.26 x 0.65 x 0.13''

Port Configurations:

Model	**J1**	**J2, J3**	**J4**
H12489	Difference Port	Input Ports	Sum Port

Werlatone's standard line of High Power 180° RF Hybrid Combiners/Dividers covers multiple octaves within a microwave device. Low frequency 180° Hybrid Combiner/Dividers employ proprietary ferrite transmission line techniques, similar to our 0° Combiners/Dividers. Insertion loss in both sum and difference ports is minimal, allowing the hybrid to handle high power over its frequency range. Custom requirements are welcome.

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Werlatone, Inc. 17 Jon Barrett Road Patterson, NY 12563 T:(845)278-2220 F:(845)278-3440 sales@werlatone.com www.werlatone.com

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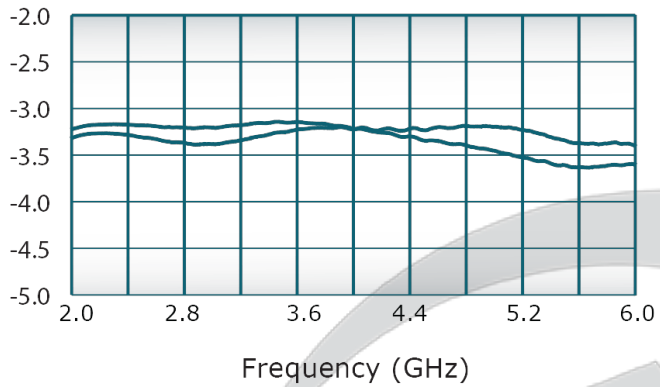
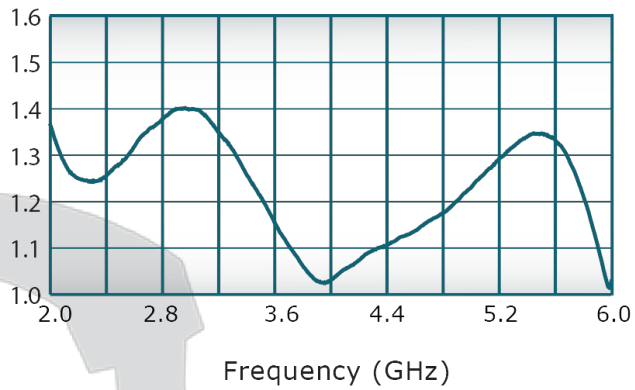
Performance Data (Specifications subject to change without notice):

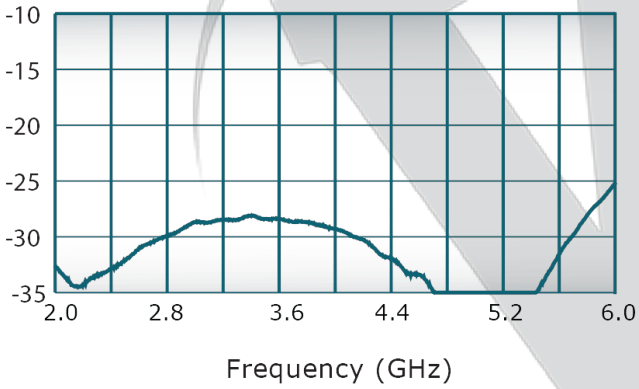
Coupling:



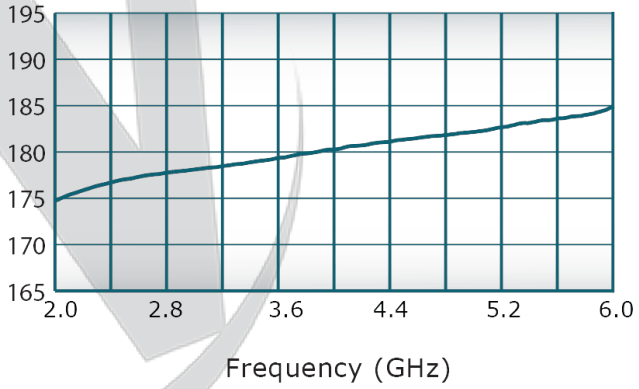
VSWR:



Isolation:



Phase Balance:



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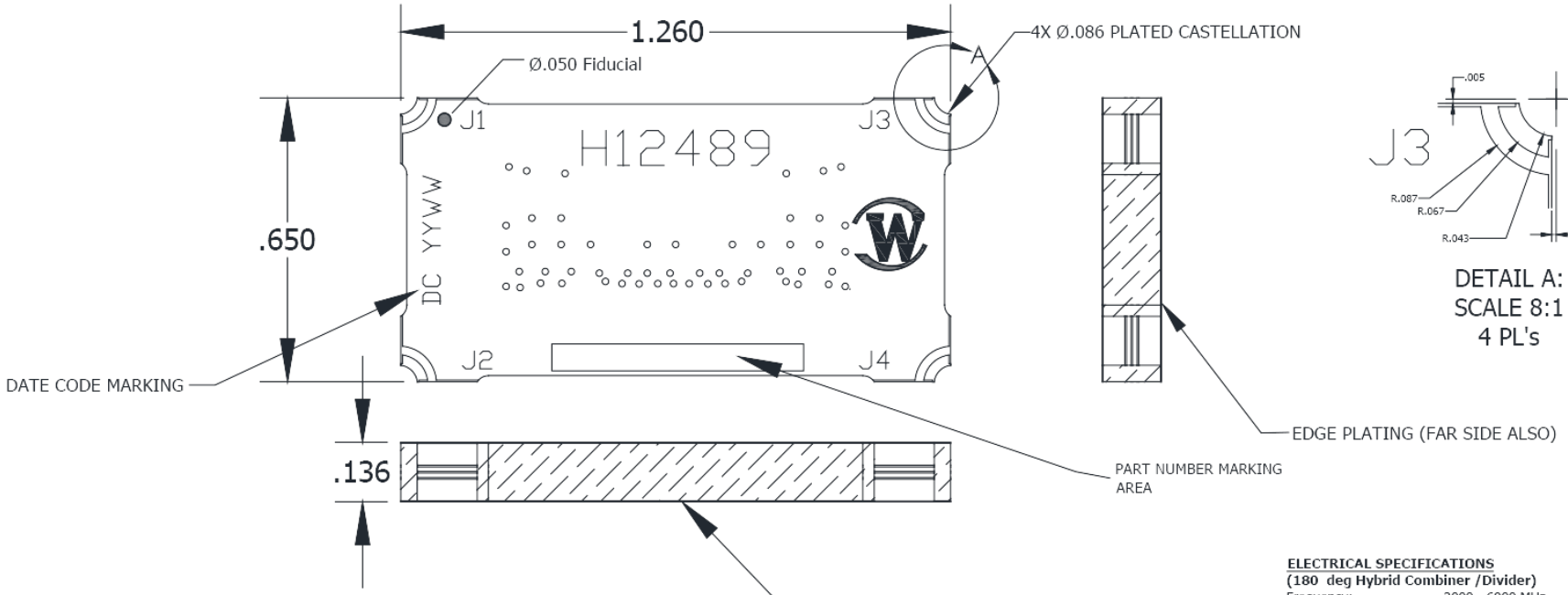
REVISION HISTORY			
REV	REVISION RECORD	DATE	APPROVED
-	INITIAL RELEASE	1/13/2022	BW



DETAIL A:
SCALE 8:1
4 PL's

NOTES: UNLESS OTHERWISE SPECIFIED

1. SURFACE MOUNT UNIT
2. PLATING OPTIONS:
   H12489-Ag: Immersion Silver
   H12489-HL: Tin/Lead HASL (HOT AIR SOLDER LEVELED)
   H12489-Au: ENIG
3. UNIT INTENDED TO BE SOLDERED TO A MICROSTRIP RF PC BOARD. FOR MORE INFO, REQUEST APPLICATION NOTE AND SUGGESTED MOUNTING FOOTPRINT
4. PORTS
   J1 = DIFFERENCE PORT
   J2 = 0° INPUT
   J3 = 180° INPUT
   J4 = SUM PORT

ELECTRICAL SPECIFICATIONS
(180 deg Hybrid Combiner /Divider)

Frequency:	2000 - 6000 MHz
Power:	150 Watts CW
Insertion Loss:	0.65 dB Max.
Amplitude Balance:	± 0.40 dB Max.
Phase Balance:	± 8° Max.
VSWR:	1.5:1
Isolation:	20 dB Min.
Operating Temperature:	-55°C To +65°C

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED
- INTERPRET DRAWING IAW MIL-STD-100
- DIMENSIONING PER ASME Y14.5M-2009
- PARENTHETICAL INFO FOR REF ONLY
- DIMENSIONS ARE IN INCHES
- TOLERANCES: ANGLE ± .2
  2 PL ± .010
  2 PL ± .015

THIRD ANGLE PROJECTION

		DATE
DWN	GP	1/13/2022
CHK	MS	1/13/2022
ENGR	GP	1/13/2022
MFGR		
QA		
RLSE		

WERLATONE | SINCE 1965
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Patterson, NY 12563

TITLE
H12489 180° HYBRID

SIZE	CAGE CODE	DWG NO	REV
B	28812	21904-500	-

SCALE 4:1 SHEET 1 OF 1

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