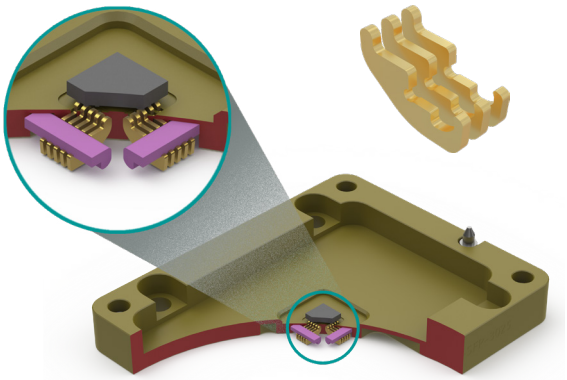
Ironwood ELECTRONICS

ATE PicoRaptor Cartridge

For Analog/RF/MMWave Device Testing

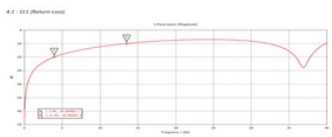


ATE PicoRaptor Test Contactor from Ironwood Electronics incorporate rigid pin contacts – perfect for use in both lab and production test environments. These high-performance contacts utilize patented short wiping stroke (SWS) technology** to cut through oxides, advanced contact finish (ACF) for polished surfaces, and AirTherm internal air channels to improve thermal control and reduce device soak time. The single multifunctional elastomer, used for biasing and controlling contact motion, is easily replaced during pre-end-of-life intervals, while the entire cartridge can be quickly replaced at end-of-life, providing an economical solution with minimal down time. ATE PicoRaptor test contactors meet your most demanding electrical and mechanical test requirements, and easily integrate into most IC handler platforms.

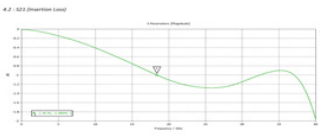
KEY FEATURES	PICORAPTOR FEATURE BENEFITS
Single Multifunctional Elastomer	Easy Installation, Inventory and Cost Reduction, Consistent / Controlled Contact Motion, Consistent CRes, Longer MTBA
Short Electrical Length	Superior Signal Performance
No Contact Pin Engagement with Back Wall of Socket Housing	No Wearing of the Socket Housing, Extended Lifespan increased OEE, lower procurement cost
SWS (Short Wiping Stroke) Technology	Ideal for Short Pads, Chamfered Corner Pads, Wettable Flank, and Step Cut Styles, minimize on spares
ACF (Advanced Contact Finishing) Technology	Load board Friendly, Minimizes Debris, Prolonged Cleaning
AirTherm Technology	Excellent thermal stability @ ±2ºC

PicoRaptor 2

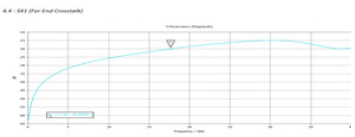
S11 parameter



S21 parameter

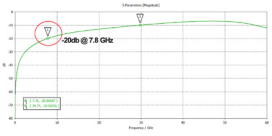


S41 parameter



PicoRaptor 1

S11 parameter



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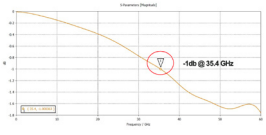
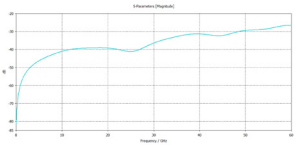


S41 parameter



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ELECTRICAL SPECIFICATIONS

	PicoRaptor 1	PicoRaptor 2
Self-Inductance (nH)	0.62	0.76**
Mutual Inductance (nH)	0.23	0.46**
Ground Capacitance (pF)	0.06	0.15**
Mutual Capacitance (pF)	0.085	0.11**
S21 (Insertion Loss/Bandwidth)	- 1dB @ 35.4GHz++	-1dB @ 18GHz**
S11 (Return Loss/Bandwidth)	- 20dB @ 7.8GHz++	- 20dB @ 3GHz**
S41 (Crosstalk /Bandwidth)	- 20dB @ 15.8GHz ++	- 20dB @ 12GHz**
Contact DC Resistance (mΩ)	≤ 25	≤ 25
Current Carrying Capacity (A) Duty Cycle 100% (20º rise)	6	9A**
Current Leakage (pA) @ 10V	≤1	≤1

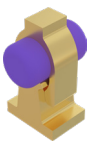
*1 simulated Data
**PicoRaptor 2 electrical simulation based on 0.50mm pitch with 1010 mils pin, CCC uses 0808 mils contact pin
++PicoRaptor 1 electrical simulation based on 0.50mm pitch with 0.20mm mils pin

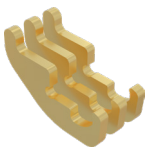
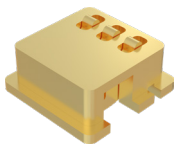
MECHANICAL SPECIFICATIONS

	PicoRaptor 1	PicoRaptor 2
Contact Pin Uncompressed Height (mm)	0.95	1.6
Contact Compliance (mm)	0.2	0.2
Contact Tip Coplanarity (mm)	±0.05*	±0.05
Gram Force per Contact(g)	30 ± 10	*20~40g
Wipe Length (mm)	0.09 ~0.12	*0.1
Number of Insertion - Laminated Housing	≥6M	≥6M
Number of Insertion - Pin (Matte Tin.) Number of Insertion - Pin (NiPd)	200 - 300K*	300K ~ 500K*
Number of Insertion - Elastomer	~200K	*300K ~ 400K
Operating Temperature	-45 ~ 155 ºC	-45 ~ 155 ºC
Socket Frame	Torlon 5030 or Equivalent	Torlon 5030 or Equivalent
Contact Cartridge	Cirlex® Polyimide	Cirlex® Polyimide
Pin Material	BeCu - NiAu	BeCu - NiAu

GROUNDING OPTIONS

Bell Contact	(HCI) Hinged Contact	Contact Pins	Ground Block with Contact(s)
≥ 2x2	≥ 3x3	≥ 5x5	≥ 2x2 (with BC) ≥ 3x3 (with HCI) ≥ 5x5 (with PicoRaptor)



Note * : The stated specifications are based on internal laboratory testing; the results may vary subjected to the test environment conditions. Information furnished by Ironwood Electronics is believed to be accurate and reliable. However, no responsibility is assumed by Ironwood for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Ironwood. Trademarks and registered trademarks are the property of their respective owners.
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