Single and multi-element PIPS® (SMEPS) detectors

- Square Detectors
- Rectangular Detectors
- Pad Detectors
- Thin Window Pad Detectors
- Position Sensitive Pad Detectors Series PF/RT
- Double Sided Strip Detectors

MIRION TECHNOLOGIES

Square Detectors

MIRION TECHNOLOGIES

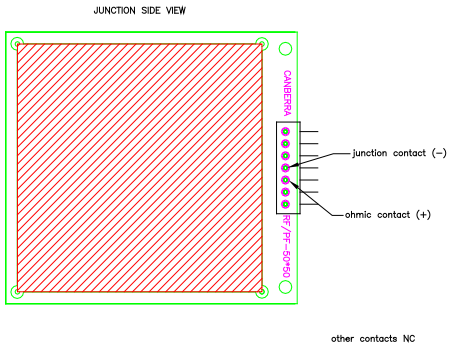
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF50*50-500EB



Detector active area:	*50 x 50*	mm
Total junction area:	*50.1 x 50.1*	mm
Chip dimensions:	*52 x 52*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*57 x 62*	mm
Connector:	*SIL*	
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 515*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*530*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*150*	Volts
Reverse current at 20°C	*200*	*750*	nA
Electronic noise:	*30*	*35*	keV
Alpha resolution:	*35*	*40*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 0.5µs shaping time.
- The electronic noise is approximated with a pulser resolution.

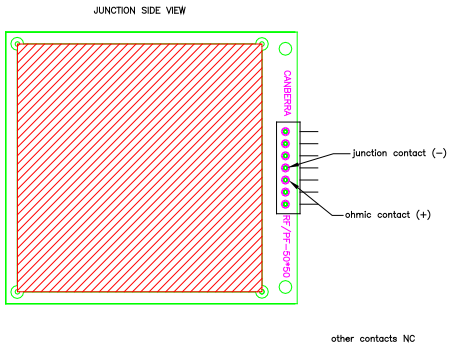
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF50*50-300EB



Detector active area:	*50 x 50*	mm
Total junction area:	*50.1 x 50.1*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*57 x 62*	mm
Connector:	*SIL*	
Chip thickness:	*300 +/- 15*	µm
Depletion depth (min./max.):	*285 / 315*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*880*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current at 20°C	*100*	*500*	nA
Electronic noise:	*35*	*40*	keV
Alpha resolution:	*40*	*12*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 0.5µs shaping time.
- The electronic noise is approximated with a pulser resolution.

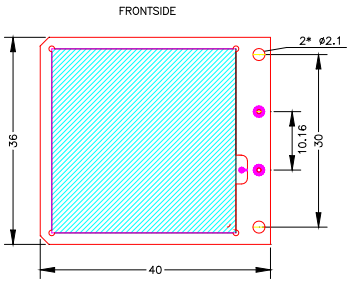
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF30*30-500EB



Detector active area:	*30.1 x 30.1*	mm
Chip dimensions:	*32 x 32*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*36 x 40*	mm
Connector:	*Contact pins*	
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*200*	pF

Estimated detector performance:

	typ.	max.	
Operating voltage:	*40*	*100*	Volts
Reverse current at 20°C	*100*	*350*	nA
Electronic noise at 20°C:		*19*	keV
Alpha resolution at 20°C:		*22*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

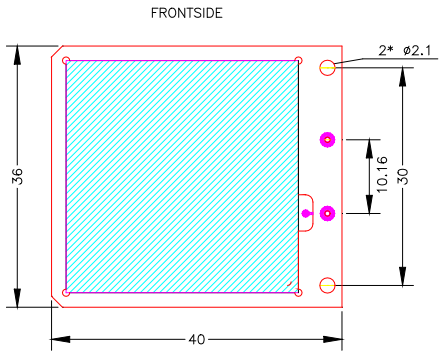
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF30*30-300EB



Detector active area:	*30.1 x 30.1*	mm
Chip dimensions:	*32 x 32*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*36 x 40*	mm
Connector:	*Contact pins*	
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*330*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current at 20°C	*50*	*200*	nA
Electronic noise at 20°C:		*20*	keV
Alpha resolution at 20°C:		*23*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

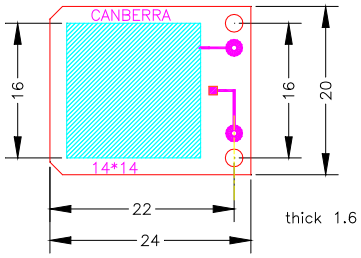
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF14*14-500EB



Detector active area:	*14.1 x 14.1*	mm
Chip dimensions:	*16 x 16*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*20 x 24*	mm
Connector:	*Contact pins*	
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*50*	pF

Estimated detector performance:

	typ.	max.	
Operating voltage:	*80*	*140*	Volts
Reverse current at 20°C	*25*	*80*	nA
Electronic noise at 20°C:		*9*	keV
Alpha resolution at 20°C:		*14*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

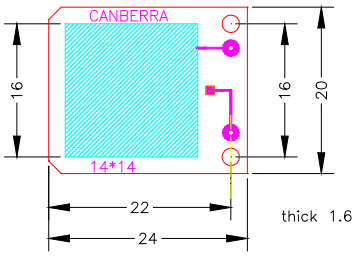
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF14*14-300EB



Detector active area:	*14.1 x 14.1*	mm
Chip dimensions:	*16 x 16*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*20 x 24*	mm
Connector:	*Contact pins*	
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*75*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current at 20°C	*15*	*60*	nA
Electronic noise at 20°C:		*10*	keV
Alpha resolution at 20°C:		*15*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

Rectangular Detectors

MIRION TECHNOLOGIES

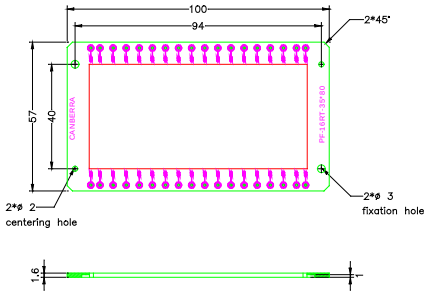
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF80*35-500 EB



Detector active area:	*80 x 35*	mm
Chip dimensions:	*83.3 x 40*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*100 x 57*	mm
Connector:	*Soldered wire*	
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*600*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*120*	Volts
Reverse current at 20°C	*300*	*1000*	nA
Electronic noise at 20°C:		*45*	keV
Alpha resolution:		*50*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

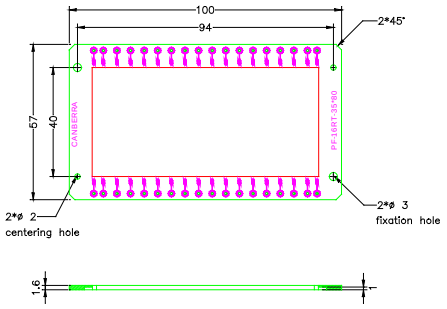
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF80*35-300EB



Detector active area:	*80 x 35*	mm
Chip dimensions:	*83.3 x 40*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*100 x 57*	mm
Connector:	*Soldered wire*	
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*1000*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current at 20°C	*200*	*600*	nA
Electronic noise at 20°C:		*52*	keV
Alpha resolution:		*55*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

Pad Detectors

MIRION TECHNOLOGIES

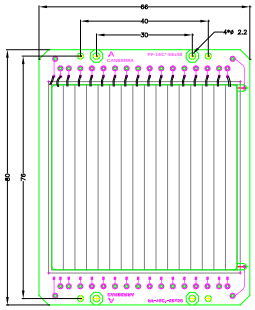
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF-CD

Model: PF-16CD-58*58-500EB



Detector active area:	*58 x 58*	mm
Chip dimensions:	*60 x 60*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*66 x 80*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*3.625*	mm
Pad length:	*58*	mm
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*50*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*140*	Volts
Reverse current per pad at 20°C	*25*	*70*	nA
Total current on detector at 20°C		*1100*	nA
Electronic noise per pad at 20°C:		*7*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

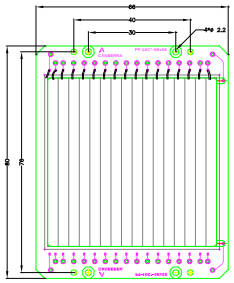
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF-CD

Model: PF-16CD-58*58-300EB



Detector active area:	*58 x 58*	mm
Chip dimensions:	*60 x 60*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*66 x 80*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*3.625*	mm
Pad length:	*58*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*80*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*30*	*80*	Volts
Reverse current per pad at 20°C	*15*	*60*	nA
Total current on detector at 20°C		*750*	nA
Electronic noise per pad at 20°C:		*8*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

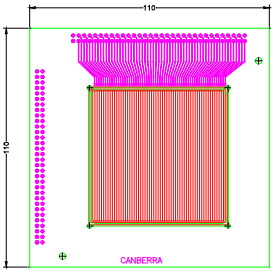
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS Detectors specification sheet

Series PF-CD

Model: PF-60CD-60*60-500EB



Detector active area:	*60 x 60*	mm
Chip dimensions:	*63.5 x 63.5*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*110 x 110*	mm
Connector:	*DIL*	
Number of Pads:	*60*	
Pad pitch:	*1*	mm
Pad length:	*60*	mm
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*20*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*140*	Volts
Reverse current per pad at 20°C	*10*	*50*	nA
Total current on detector at 20°C		*1500*	
Electronic noise per pad:		*6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

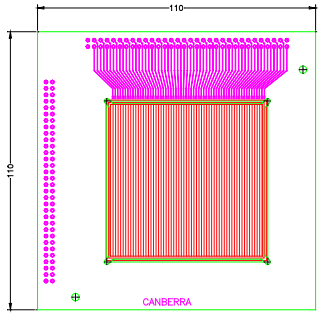
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS Detectors specification sheet

Series PF-CD

Model: PF-60CD-60*60-300EB



Detector active area:	*60 x 60*	mm
Chip dimensions:	*63.5 x 63.5*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*110 x 110*	mm
Connector:	*DIL*	
Number of Pads:	*60*	
Pad pitch:	*1*	mm
Pad length:	*60*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*30*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current per pad at 20°C	*5*	*40*	nA
Total current on detector at 20°C		*800*	nA
Electronic noise per pad:		*6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

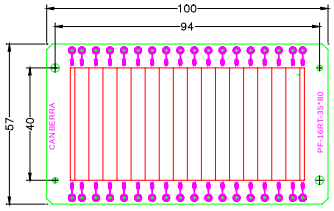
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Thin window pad PIPS specification sheet

Series PF-CT

Model: PF-16CT-35*80-300EB



Detector active area:	*35 x 80*	mm
Total diode area:	*38.2 x 80*	mm
Chip dimensions:	*40 x 83.2*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*57 x 100*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*5*	mm
Pad length:	*35*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*65*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at 20°C:	*25*	*130*	nA
Electronic noise per pad at 20°C:	*8*	*10*	keV
Alpha resolution per pad at 20°C:	*14*	*16*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- Alpha resolution is given for ^{241}Am, 5486 keV alphas, using standard Canberra electronics and 0.5µs shaping time constant.
- The electronic noise is approximated with a pulser resolution.

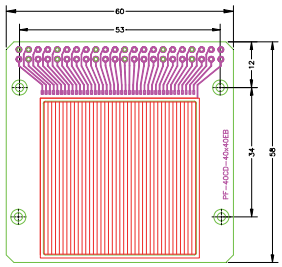
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF-CD

Model: PF-40CD-40*40-500EB



Detector active area:	*40 x 40*	mm
Chip dimensions:	*42 x 42*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*60 x 58*	mm
Connector:	*DIL*	
Number of Pads:	*40*	
Pad pitch:	*1*	mm
Pad length:	*40*	mm
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*13*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*140*	Volts
Reverse current per pad at 20°C:	*5*	*20*	nA
Total current on detector at 20°C:	*200*	*600*	nA
Electronic noise per pad at 20°C:	*4*	*5*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

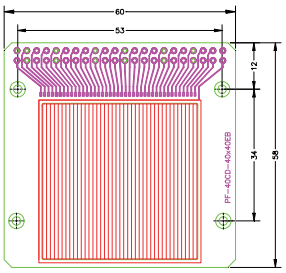
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS® specification sheet

Series PF-CD

Model: PF-40CD-40*40-300EB



Detector active area:	*40 x 40*	mm
Chip dimensions:	*42 x 42*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*60 x 58*	mm
Connector:	*DIL*	
Number of Pads:	*40*	
Pad pitch:	*1*	mm
Pad length:	*40*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*18*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*30*	*100*	Volts
Reverse current per pad at 20°C:	*3*	*15*	nA
Total current on detector at 20°C:	*120*	*350*	nA
Electronic noise per pad at 20°C:	*4*	*6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

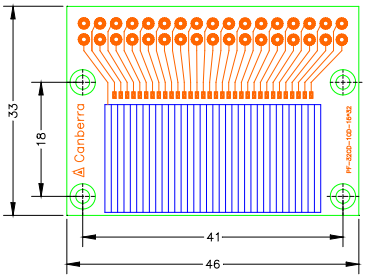
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF

Model: PF-32CD-15*32-500EB



Detector active area:	*15 x 32*	mm
Chip dimensions:	*17 x 34*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*33 x 46*	mm
Connector:	*DIL*	
Number of Pads:	*32*	
Pad pitch:	*1*	mm
Pad length:	*15*	mm
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*5*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*140*	Volts
Reverse current per pad at 20°C:	*2*	*10*	nA
Total current on detector at 20°C:	*65*	*150*	nA
Electronic noise per pad at 20°C:	*4*	*5*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

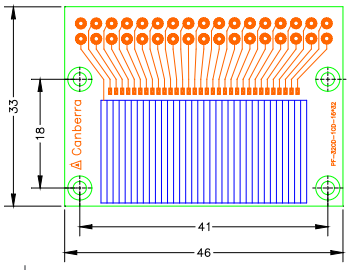
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF-CD

Model: PF-32CD-15*32-300EB



Detector active area:	*15 x 32*	mm
Chip dimensions:	*17 x 34*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*33 x 46*	mm
Connector:	*DIL*	
Number of Pads:	*32*	
Pad pitch:	*1*	mm
Pad length:	*15*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*7*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current per pad at 20°C:	*1*	*5*	nA
Total current on detector at 20°C:	*32*	*100*	nA
Electronic noise per pad at 20°C:	*4*	*6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

Thin Window Pad Detectors

MIRION TECHNOLOGIES

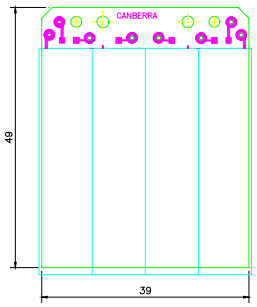
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Thin window PAD PIPS specification sheet

Series PF-CT

Model: PF-4CT-40*40-300EB



Detector active area:	*40.4 x 38.9*	mm
Chip dimensions:	*42.6 x 40*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*39 x 49*	mm
Connector:	*None*	
Number of Pads:	*4*	
Pad pitch:	*10*	mm
Pad length:	*40*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*145*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at +20°C	*30*	*100*	nA
Total current on detector at +20°C:		*250*	nA
Electronic noise per pad at 20°C:		*16*	keV
Alpha resolution per pad at 20°C		*25*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.

CANBERRA

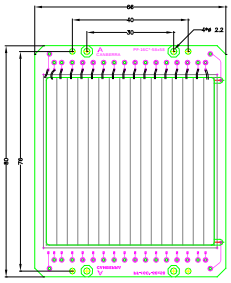
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Thin window Pad PIPS specification sheet

Series PF-CT

Model: PF-16CT-58*58-300EB



Detector active area:	*58 x 58*	mm
Chip dimensions:	*60 x 60*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*60 x 80*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*3.63*	mm
Pad length:	*58*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*85*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*30*	*80*	Volts
Reverse current per pad at 20°C	*15*	*100*	nA
Total current on detector at 20°C		*750*	nA
Electronic noise per pad at 20°C:		*8*	keV
Alpha resolution per pad at 20°C:		*20*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- Alpha resolution is given for Americium-241, using standard CANBERRA electronics in vacuum.
- The electronic noise is approximated with a pulser resolution.

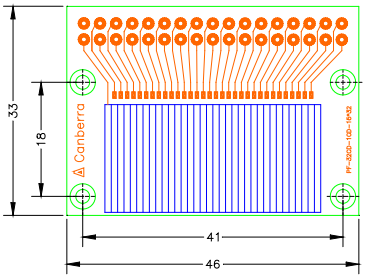
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Pad PIPS specification sheet

Series PF

Model: PF-32CD-15*32-500EB



Detector active area:	*15 x 32*	mm
Chip dimensions:	*17 x 34*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*33 x 46*	mm
Connector:	*DIL*	
Number of Pads:	*32*	
Pad pitch:	*1*	mm
Pad length:	*15*	mm
Chip thickness:	*500*	µm
Depletion depth (min./max.):	*485 / 525*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 1500*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*5*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*80*	*140*	Volts
Reverse current per pad at 20°C:	*2*	*10*	nA
Total current on detector at 20°C:	*65*	*150*	nA
Electronic noise per pad at 20°C:	*4*	*5*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.

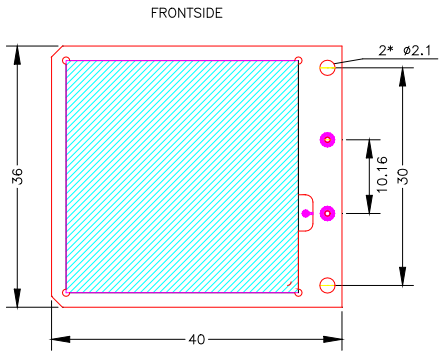
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Rectangular PIPS specification sheet

Series RF

Model: RF30*30-300EB



Detector active area:	*30.1 x 30.1*	mm
Chip dimensions:	*32 x 32*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*36 x 40*	mm
Connector:	*Contact pins*	
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Detector capacitance (typ.):	*330*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*100*	Volts
Reverse current at 20°C	*50*	*200*	nA
Electronic noise at 20°C:		*20*	keV
Alpha resolution at 20°C:		*23*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.
- The electronic noise is approximated with a pulser resolution.

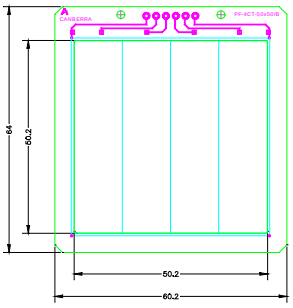
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Thin window PAD PIPS specification sheet

Series PF-CT

Model: PF-4CT-50*50-300EB



Detector active area:	*50 x 50*	mm
Chip dimensions:	*51.5 x 51.5*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*60.2 x 64*	mm
Connector:	*SIL (single in line)*	
Number of Pads:	*4*	
Pad pitch:	*12.5*	mm
Pad length:	*50*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*225*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at +20°C	*30*	*150*	nA
Total current on detector at +20°C:		*450*	nA
Electronic noise per pad at 20°C:		*18*	keV
Alpha resolution per pad at 20°C		*30*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.

Position Sensitive Pad Detectors Series PF/RT

MIRION TECHNOLOGIES

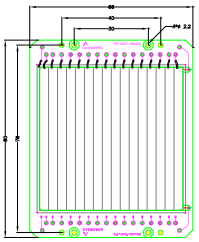
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-16RT-58*58-300EB



Detector active area:	*58 x 58*	mm
Chip dimensions:	*60 x 60*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*66 x 80*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*3.63*	mm
Pad length:	*58*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*85*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*60*	*90*	Volts
Reverse current per pad at 20°C:	*15*	*100*	nA
Total current on detector at 20°C:	*250*	*750*	
Energy resolution for 5.5MeV Alphas at 1us:	*30*	*35*	keV
Spatial resolution for 5.5MeV Alphas at 0.5us:		*0.6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.

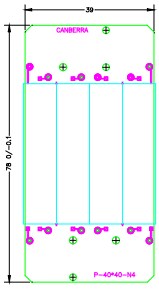
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-4RT-40*40-300EB



Detector active area:	*40.4 x 38.5*	mm
Chip dimensions:	*42.6 x 40*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*39 x 78*	mm
Connector:	*None*	
Number of Pads:	*4*	
Pad pitch:	*10*	mm
Pad length:	*40.3*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*145*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at 20°C:	*30*	*100*	nA
Total current on detector at 20°C:		*250*	
Energy resolution for 5.5MeV Alphas at 1us:	*35*	*40*	keV
Spatial resolution for 5.5MeV Alphas at 0.5 us:		*0.4*	mm

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1 µs shaping time.

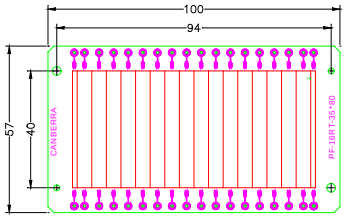
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-16RT-35*80-300EB



Detector active area:	*35 x 80*	mm
Chip dimensions:	*38.2 x 80*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*57 x 100*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*5*	mm
Pad length:	*38.2*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*70*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at 20°C:	*30*	*60*	nA
Total current on detector at 20°C:		*600*	nA
Energy resolution for 5.5MeV Alphas at 1us:	*30*	*35*	keV
Spatial resolution for 5.5MeV Alphas at 0.5 us:		*0.35*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1 µs shaping time.

Double Sided Strip Detectors

MIRION TECHNOLOGIES

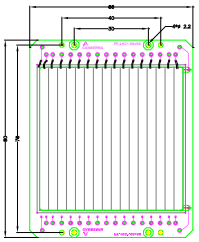
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-16RT-58*58-300EB



Detector active area:	*58 x 58*	mm
Chip dimensions:	*60 x 60*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*66 x 80*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*3.63*	mm
Pad length:	*58*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*85*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*60*	*90*	Volts
Reverse current per pad at 20°C:	*15*	*100*	nA
Total current on detector at 20°C:	*250*	*750*	
Energy resolution for 5.5MeV Alphas at 1us:	*30*	*35*	keV
Spatial resolution for 5.5MeV Alphas at 0.5us:		*0.6*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1µs shaping time.

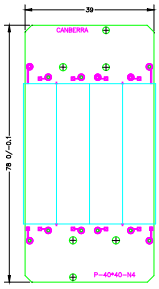
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-4RT-40*40-300EB



Detector active area:	*40.4 x 38.5*	mm
Chip dimensions:	*42.6 x 40*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*39 x 78*	mm
Connector:	*None*	
Number of Pads:	*4*	
Pad pitch:	*10*	mm
Pad length:	*40.3*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*145*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at 20°C:	*30*	*100*	nA
Total current on detector at 20°C:		*250*	
Energy resolution for 5.5MeV Alphas at 1us:	*35*	*40*	keV
Spatial resolution for 5.5MeV Alphas at 0.5 us:		*0.4*	mm

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1 µs shaping time.

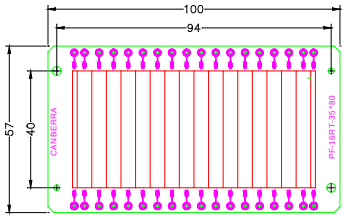
MIRION TECHNOLOGIES

Radiation Safety. **Amplified.**

Position Sensitive Pad Detectors

Series PF-RT

Model: PF-16RT-35*80-300EB



Detector active area:	*35 x 80*	mm
Chip dimensions:	*38.2 x 80*	mm
Mount:	*Epoxy board*	
Epoxy board dimensions:	*57 x 100*	mm
Connector:	*None*	
Number of Pads:	*16*	
Pad pitch:	*5*	mm
Pad length:	*38.2*	mm
Chip thickness:	*300*	µm
Depletion depth (min./max.):	*285 / 325*	µm
Contact to junction:	*Wire bonding*	
Contact to ohmic side:	*Wire bonding*	
Junction window thickness:	*< 50*	nm
Ohmic window thickness:	*< 1500*	nm
Pad capacitance (typ.):	*70*	pF

Estimated detector performance:

	typ.	**max.**	
Operating voltage:	*40*	*80*	Volts
Reverse current per pad at 20°C:	*30*	*60*	nA
Total current on detector at 20°C:		*600*	nA
Energy resolution for 5.5MeV Alphas at 1us:	*30*	*35*	keV
Spatial resolution for 5.5MeV Alphas at 0.5 us:		*0.35*	keV

- Standard tests are performed following IEEE Standard Test Procedures for Semiconductor Charged Particle Detectors No IEEE Std 300-1988.
- The electronic noise is approximated with a pulser resolution.
- The Alpha resolution is measured with an Am^{241} source, using standard Canberra electronics with 1 µs shaping time.