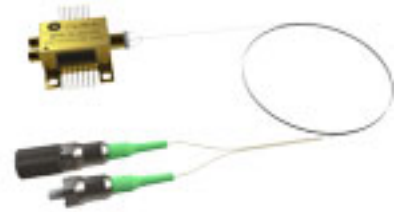




# BPR-23-SQ-AVIM

## 23 GHz Linear Balanced Photo Receiver, SQ ver. w/MINI-AVIM Connector



- リニアバランス型フォトレシーバです。  
最大23GHzの構成可能な帯域幅を備えております。
- 波長帯: 950nmから1650nmです。
- 耐衝撃性と耐振動性に優れより広い温度範囲に耐える信頼性があります。
- AVIMコネクタが付属しています。

FEATURES	<ul style="list-style-type: none"><li>• MINI-AVIM Connector</li><li>• MGC and AGC modes</li><li>• Adjustable bandwidth to 23 GHz</li><li>• Low skew, near ideal matching response</li></ul>	<ul style="list-style-type: none"><li>• Linear TIA with integrate VGA</li><li>• 14 pin mini-DIL package</li><li>• Dual GPPO for differential RF output</li></ul>
USE IN	<ul style="list-style-type: none"><li>• <math>\leq 23</math> GHz RFoF Link Systems</li><li>• Line card designs</li><li>• 48 Gbit/s DQPSK systems</li></ul>	<ul style="list-style-type: none"><li>• Transponder designs</li><li>• Low-noise analog heterodyne detection</li><li>• Satellite Communication</li></ul>
TESTS (partial)	<ul style="list-style-type: none"><li>• Stabilization Bake</li><li>• Thermal Cycling</li><li>• Constant Acceleration</li><li>• PIND</li><li>• Burn-in Screening</li><li>• Electro-Optical Measurement</li><li>• Radiographic Inspection</li><li>• Fine and Gross Seal Tests</li><li>• SAM</li></ul>	<ul style="list-style-type: none"><li>• SEM</li><li>• Bond Pull Test</li><li>• Die Shear Attache Strength</li><li>• Vibration Test</li><li>• Life Test</li><li>• Humidity Test</li><li>• ESD (HBM) Test</li><li>• Temperature Step-Stress Test</li><li>• Proton Displacement Damage</li></ul>
STANDARDS (partial)	<ul style="list-style-type: none"><li>• ECSS_Q-ST-60-5C</li><li>• ESCC (various)</li><li>• MIL-STD-883</li></ul>	<ul style="list-style-type: none"><li>• IEC 60749-29</li><li>• MIL-PRF-38534</li><li>• FOTP-13</li></ul>



詳しい問い合わせ：有限会社アミスター  
〒146-0085 東京都大田区久が原1-5-7-302  
TEL:03-6410-4277 FAX:03-6410-4278  
E-mail:info@amistar.jp



## SPECIFICATIONS

GENERAL	Optimized Operating Wavelength	950 nm to 1650 nm
	Optical Input Level	+4 dBm max.
	S21 3 dB Bandwidth	23 GHz typ.
	Dark Current @ 25° C, 3.3V	5 nA typ.
	Conversion Gain	1500 V/W typ., 1300 V/W min
	Imbalance of Conversion Gain	0.3 dB typ.
	Optical Return Loss	30 dB typ.
	Optical PDL @1550 nm	0.25 dB max.
	PD Reverse Bias Voltage	3.3 V ± 0.2V
	TIA Supply Voltage	3.3 V ± 0.2V
	Output Return Loss	8 dB @ 20 GHz
	Differential Output Voltage	Up to 1200 mVpp
	Impedance	50 Ω
	Output Coupling	DC (external AC coupling required)
	Impulse Response	22 ps typ.
	Skew	5 ps typ., 20 ps max.
Noise Equivalent Power Density	70 pW/√ Hz max.	
MECHANICAL	Operating Temperature	-15 °C to +75 °C
	Storage Temperature	-40 °C to +85 °C
	Operating Humidity	85% max
	Supply Current	77 mA typ., 93 mA max.
	Housing Dimension	18 mm x 22 mm x 8.5 mm
	Fiber Connector	Diamond MINI-AVIM
	Optical Fiber	SMF-28
	Package Type	14 pin butterfly min-DIL
RF Connector	Dual GPPD	
MAX RATINGS	PD Reverse Bias Voltage	4.5 V
	Input Optical Power	6 mW
	Maxium Current	93 mA
	Continuous Input Current	-1.5 mA to 5 mA
	ESD, Input and Output Pins	1000 V min.
	ESD, All Other Pins	2000 V min.
	Latch up	JESD78 Class 2
	Humidity	85%



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PIN-OUT

PIN 1, 5, 10, 14	V <sub>cc</sub>	2.8 to 3.3 V, abs max current is 93 mA
PIN 2	BWM	Bandwidth Adjust, Sign.
PIN 3	BWA	Bandwidth Adjust, Magnitude
PIN 4	OA	Output Amplitude Adjust. 0-3.3 VDC adjustment for AGC mode.
PIN 6, 9	GND	Ground
PIN 7	VPD1	PD1 Cathode Connection
PIN 8	VPD2	PD2 Cathode Connection
PIN 11	GC	Gain Control. 0-3.3 VDC adjustment for MGC mode. Set to FLT in AGC mode.
PIN 12	MC	Mode Control. GND: MGC mode; FLT: AGC mode; V <sub>cc</sub> : Shutdown.
PIN 13	PKD	Peak Detector Output
	OUTP	Positive RF Output, DC coupled out
	OUTN	Negative RF Output, DC coupled out

FUNCTION DIAGRAM

