Coaxial

RF Instrument Amplifier

TVA-63-183A+

50Ω 6 to 18 GHz

Features

- Instrument model with built-in power supply 110/220 VAC
- Gain, 24 dB typ.
- Unconditionally stable
- Output Power, up to 17 dBm typ.
- Excellent Isolation, 62 dB typ.
- Thermally self-protected, LED indicator
- Good matching at input and output
- CE marked

Applications

- Lab use
- Wideband test instrumentation

Generic photo used for illustration purposes only

CASE STYLE: PJ2059

Connectors	Model
SMA	TVA-63-183A+

+RoHS Compliant

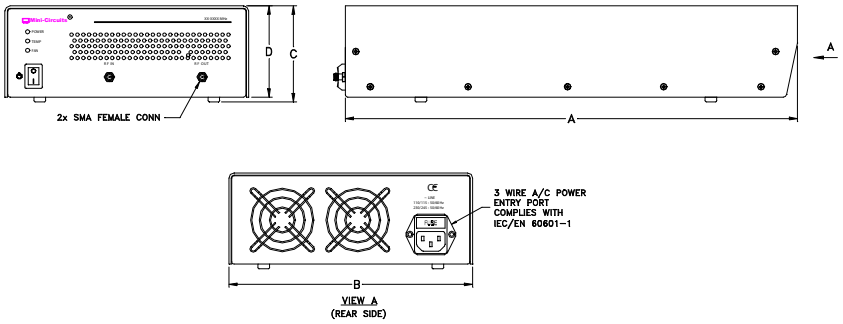
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications at 25°C, unless otherwise noted

Parameter	Condition (GHz)	Min	Typ.	Max.	Units
Frequency Range		6	—	18	GHz
Gain	6 - 18	20	24	—	dB
Gain Flatness	6 - 18	—	±1.5	—	dB
Output Power at 1dB compression	6 - 18	15	17	—	dBm
Noise Figure	6 - 18	—	6.4	—	dB
Output third order intercept point	6 - 18	—	26	—	dBm
Input VSWR	6 - 18	—	1.5	—	:1
Output VSWR	6 - 18	—	1.25	—	:1
AC Supply Voltage	47 - 63 Hz	85	110/220	265	V

Note: Keep area adjacent to the airvents clear to allow free air flow.

Outline Drawing



Maximum Ratings

Parameter	Ratings
Operating Temperature	0°C to 55°C
Storage Temperature	-40°C to 70°C
Input RF Power (no damage)	+20 dBm

Permanent damage may occur if any of these limits are exceeded.

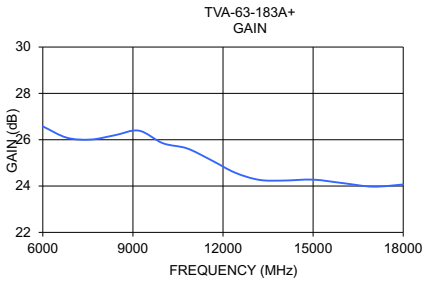
Outline Dimensions (inch / mm)

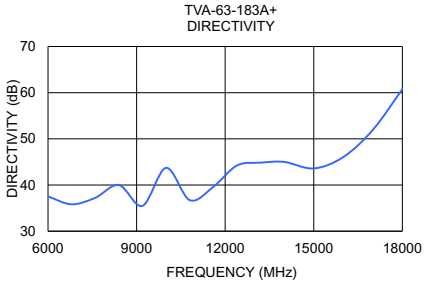
A	B	C	D	WT.
15.35	8.27	3.25	3.09	GRAM
389.89	210.06	82.55	78.49	2490

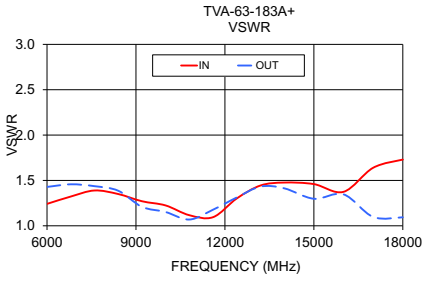
Notes

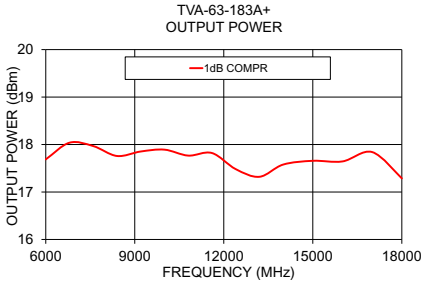
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

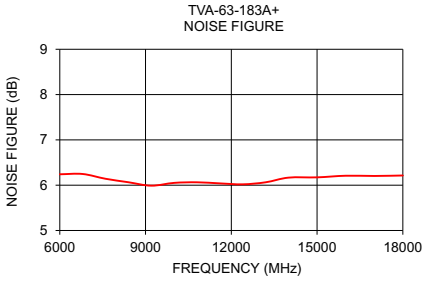
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT at 1 dB COMPR. (dBm)	IP3 (dBm)
			IN	OUT			
6000	26.57	37.52	1.24	1.43	6.24	17.69	29.99
6800	26.09	35.82	1.32	1.46	6.25	18.04	29.74
7600	26.01	37.23	1.39	1.44	6.14	17.97	29.37
8400	26.19	39.99	1.35	1.39	6.06	17.76	28.63
9200	26.39	35.49	1.27	1.21	5.99	17.85	28.74
10000	25.85	43.72	1.22	1.15	6.05	17.89	28.85
10800	25.63	36.72	1.12	1.07	6.06	17.77	28.83
11600	25.12	39.61	1.10	1.18	6.04	17.82	28.90
12400	24.58	44.23	1.30	1.31	6.02	17.48	28.96
13200	24.27	44.84	1.44	1.43	6.06	17.32	28.53
14000	24.24	45.00	1.48	1.41	6.17	17.58	27.91
15000	24.28	43.59	1.46	1.30	6.17	17.66	27.64
16000	24.12	46.06	1.37	1.35	6.21	17.64	27.38
17000	23.97	51.94	1.64	1.10	6.20	17.84	27.09
18000	24.07	60.76	1.73	1.09	6.21	17.29	27.07

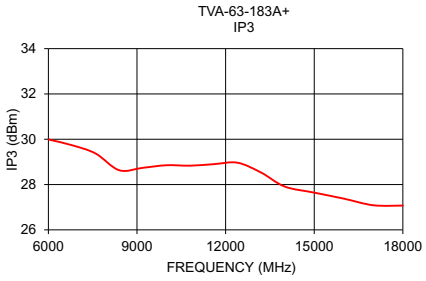












Notes
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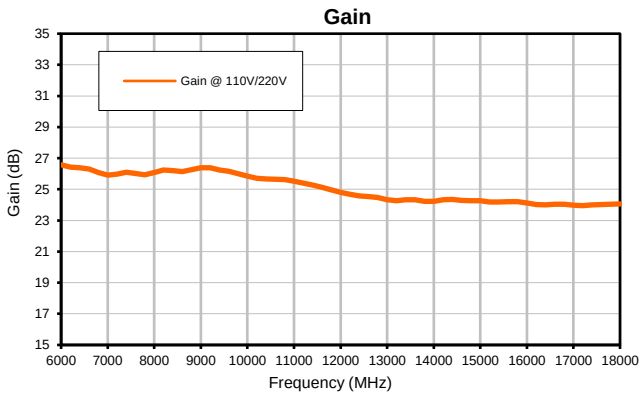
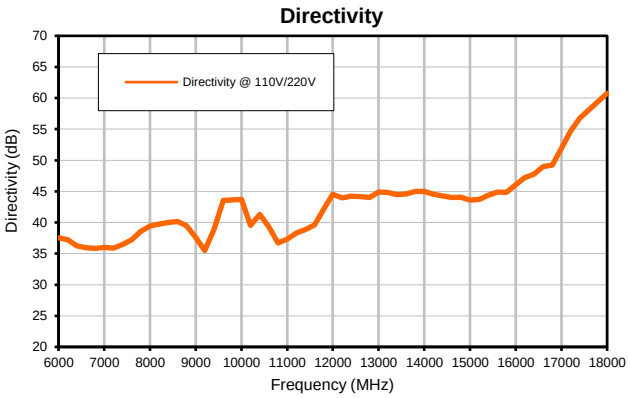
RF Instrument Amplifier TVA-63-183A+

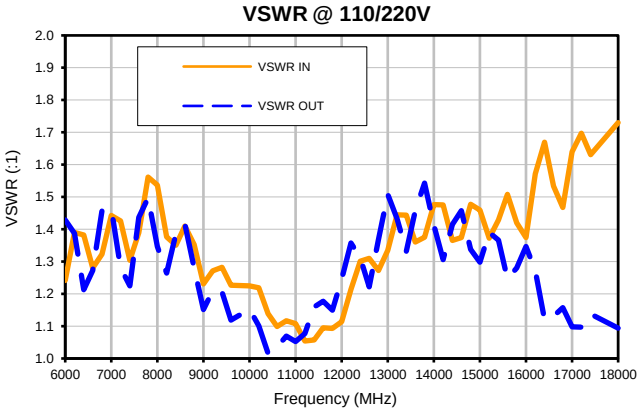
Typical Performance Data

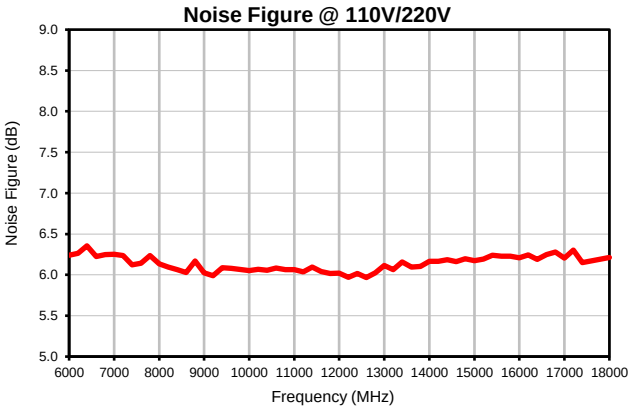
FREQUENCY (MHz)	GAIN (dB)	DIRECTIVITY (dB)	VSWR (:1)		NOISE FIGURE (dB)	POUT @ 1 dB COMPRESSION (dBm)	OUTPUT IP3 (dBm)
			IN	OUT			
	110V/220V	110V/220V	110V/220V	110V/220V	110V/220V	110V/220V	110V/220V
6000.0	26.57	37.52	1.24	1.43	6.24	17.69	29.99
6200.0	26.43	37.23	1.39	1.39	6.27	17.93	29.93
6400.0	26.40	36.27	1.38	1.21	6.35	18.05	29.85
6600.0	26.30	35.94	1.28	1.27	6.23	18.06	30.00
6800.0	26.09	35.82	1.32	1.46	6.25	18.04	29.74
7000.0	25.92	35.98	1.44	1.46	6.25	17.98	29.46
7200.0	25.98	35.87	1.43	1.28	6.24	17.99	29.50
7400.0	26.09	36.48	1.30	1.22	6.12	17.96	29.56
7600.0	26.01	37.23	1.39	1.44	6.14	17.97	29.37
7800.0	25.93	38.58	1.56	1.50	6.24	17.73	28.78
8000.0	26.09	39.43	1.54	1.35	6.14	17.93	29.04
8200.0	26.24	39.76	1.38	1.26	6.09	17.96	28.97
8400.0	26.19	39.99	1.35	1.39	6.06	17.76	28.63
8600.0	26.13	40.17	1.41	1.42	6.03	17.77	28.69
8800.0	26.26	39.49	1.35	1.28	6.17	17.83	28.78
9000.0	26.39	37.59	1.23	1.15	6.03	17.76	28.90
9200.0	26.39	35.49	1.27	1.21	5.99	17.85	28.74
9400.0	26.24	38.88	1.28	1.21	6.09	17.94	28.70
9600.0	26.16	43.57	1.23	1.12	6.08	17.94	28.75
10000.0	25.85	43.72	1.22	1.15	6.05	17.89	28.85
10200.0	25.72	39.52	1.22	1.10	6.07	17.95	28.79
10400.0	25.67	41.31	1.14	1.02	6.06	17.67	28.89
10600.0	25.64	39.34	1.10	1.04	6.08	17.80	28.89
10800.0	25.63	36.72	1.12	1.07	6.06	17.77	28.83
11000.0	25.53	37.35	1.11	1.05	6.06	17.65	28.87
11200.0	25.41	38.28	1.05	1.08	6.03	17.75	28.82
11400.0	25.27	38.86	1.06	1.16	6.09	17.81	28.89
11600.0	25.12	39.61	1.10	1.18	6.04	17.82	28.90
11800.0	24.96	42.14	1.09	1.15	6.02	17.37	29.15
12000.0	24.81	44.51	1.11	1.25	6.02	17.88	29.02
12200.0	24.68	43.98	1.21	1.36	5.97	17.61	28.99
12400.0	24.58	44.23	1.30	1.31	6.02	17.48	28.96
12600.0	24.54	44.16	1.31	1.22	5.97	17.31	28.98
12800.0	24.48	44.00	1.27	1.37	6.02	17.40	28.71
13000.0	24.32	44.90	1.33	1.51	6.11	17.35	28.77
13200.0	24.27	44.84	1.44	1.43	6.06	17.32	28.53
13400.0	24.34	44.50	1.44	1.33	6.16	17.52	28.40
13600.0	24.33	44.58	1.36	1.46	6.09	17.37	28.30
13800.0	24.23	44.99	1.38	1.54	6.10	17.37	28.22
14000.0	24.24	45.00	1.48	1.41	6.17	17.58	27.91
14200.0	24.33	44.53	1.48	1.31	6.17	17.63	27.91
14400.0	24.35	44.25	1.37	1.42	6.19	17.15	28.02
14600.0	24.28	44.02	1.37	1.46	6.16	17.38	27.86
14800.0	24.28	44.08	1.48	1.34	6.20	17.65	27.67
15000.0	24.28	43.59	1.46	1.30	6.17	17.66	27.64
15200.0	24.19	43.71	1.37	1.39	6.19	17.35	27.72
15400.0	24.18	44.36	1.43	1.37	6.24	17.68	27.45
15600.0	24.20	44.91	1.51	1.25	6.23	17.82	27.49
15800.0	24.21	44.82	1.42	1.28	6.23	17.47	27.48
16000.0	24.12	46.06	1.37	1.35	6.21	17.64	27.38
16200.0	24.03	47.19	1.57	1.27	6.24	17.61	27.48
16400.0	24.00	47.76	1.67	1.12	6.19	17.75	27.38
16600.0	24.04	49.01	1.53	1.13	6.25	17.20	27.52
16800.0	24.04	49.19	1.47	1.16	6.28	17.60	27.32
17000.0	23.97	51.94	1.64	1.10	6.20	17.84	27.09
17200.0	23.95	54.67	1.70	1.10	6.30	17.41	27.27
17400.0	24.00	56.79	1.63	1.14	6.15	17.45	27.26
18000.0	24.07	60.76	1.73	1.09	6.21	17.29	27.07

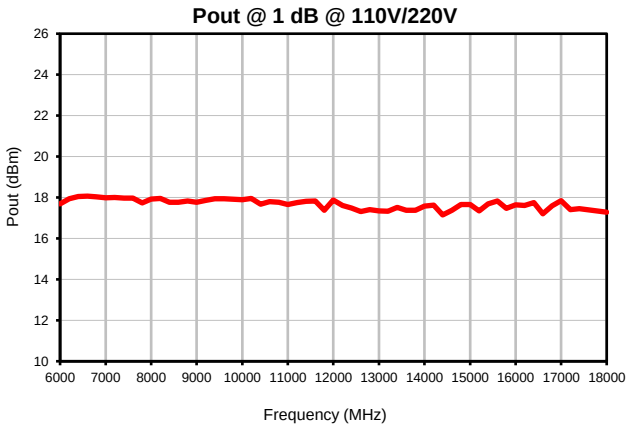
Typical Performance Curves

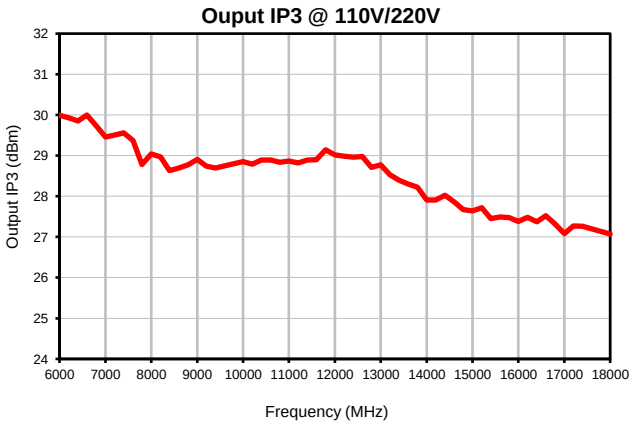






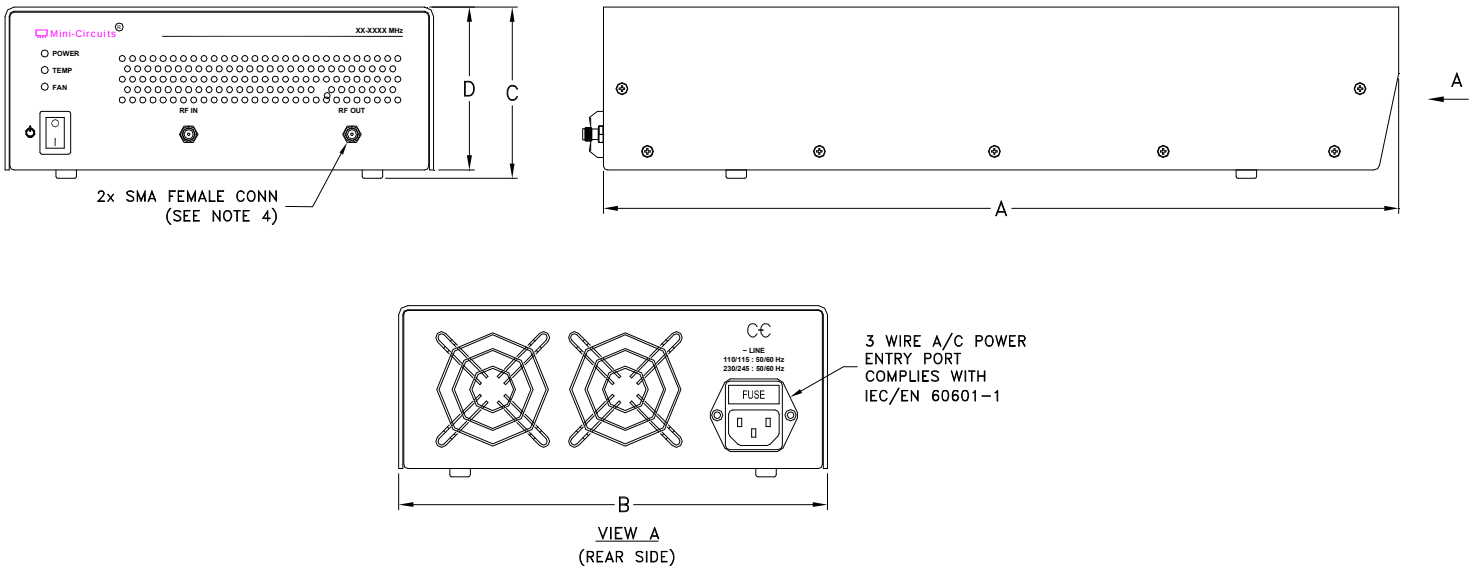






Case Style PJ

Outline Dimensions PJ2059



CASE#	A	B	C	D	E	WT, GRAM
PJ2059	15.35 (390.0)	8.27 (210.0)	3.25 (82.6)	3.09 (78.5)	-- --	2490

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015

Notes:

1. Case material: Aluminum alloy.
2. Finish: White paint.
3. Keep area adjacent to airvents clear to allow free air flow. Caution: Do not insert anything, especially conductors or fingers into case opening. Physical injury, shock or death may occur.
4. Connector shape may vary.

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INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
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Environmental Specifications ENV35

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-0° to 55° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-40° to 70° C Ambient Environment	Individual Model Data Sheet