

## 1000MHz 20dB Gain CATV forward Integrated Circuit

### ★ FEATURES

- Excellent linearity
- Excellent distortion performance
- High gain
- Extremely low noise
- Excellent return loss properties

### ★ APPLICATIONS

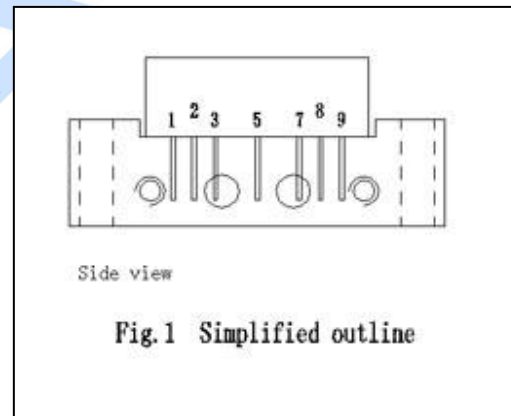
For CATV systems operating over a frequency range of 40 to 1000MHz.

### PINNING — SOT115J

PIN	DESCRIPTION
1	Input
2	Common
3	Common
5	+VB
7	Common
8	Common
9	Output

### ★ DESCRIPTION

KF1020C in a SOT115J package, operating at a supply voltage of 24V(DC), and intended for use as a line-extender.



### ★ QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
G <sub>p</sub>	power gain	f=50MHz	19.5	20.0	21.0	dB
		f=1000MHz	20.2	-	-	dB
I <sub>tot</sub>	total current consumption (DC)	VB= +24V	200	210	220	mA

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### ★ LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	MIN	MAX	UNIT
VB	supply voltage	-	25	V
V <sub>i</sub>	RF input voltage	-	60	dBmV
T <sub>stg</sub>	storage temperature	-20	+100	°C
T <sub>mb</sub>	operating mounting base temperature	-40	+100	°C

### ★ CHARACTERISTICS

Bandwidth 40 to 1000MHz; VB = +24 V; T<sub>mb</sub> = 25 °C; Z<sub>S</sub> = Z<sub>L</sub> = 75 Ω .

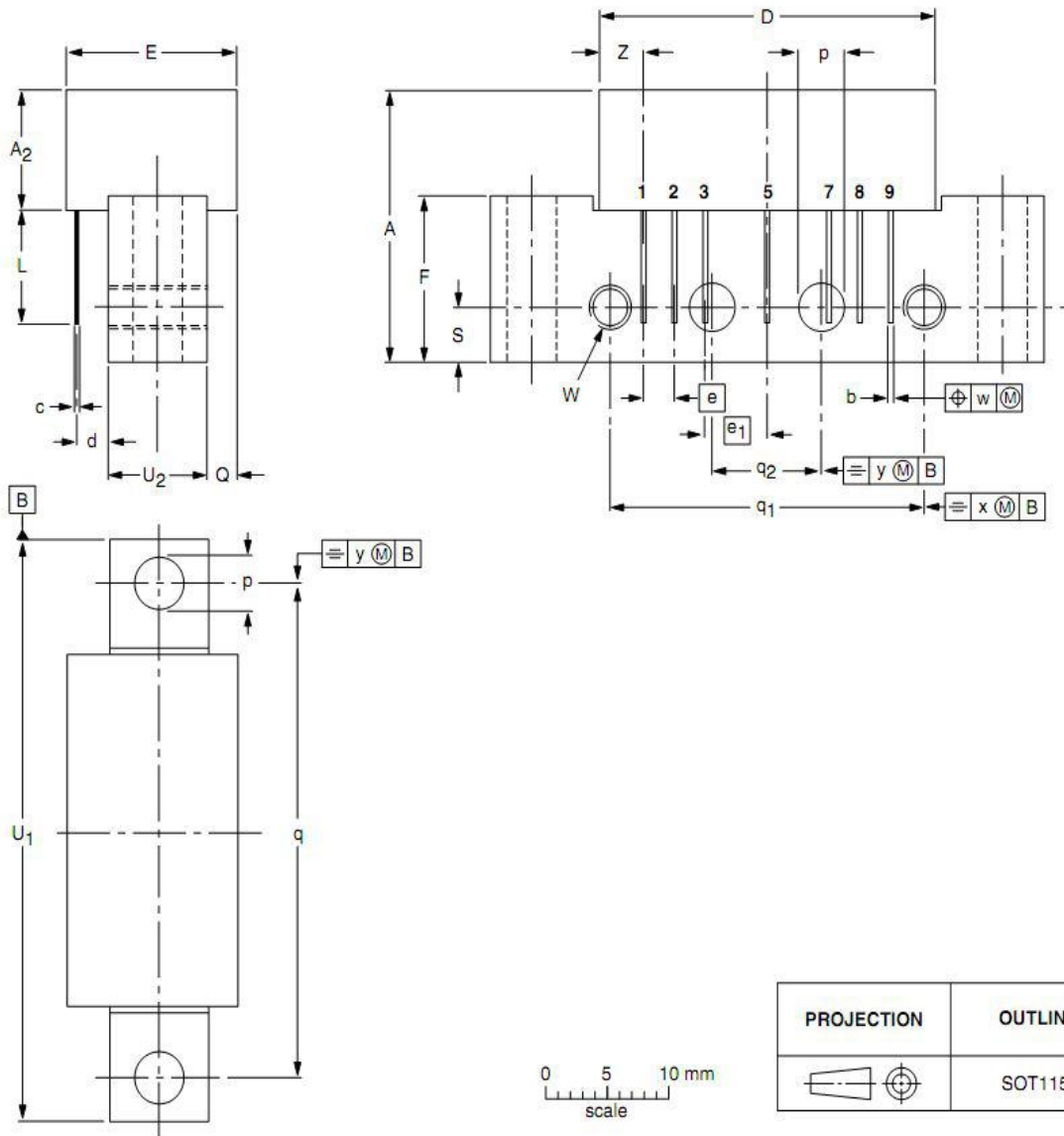
SYMBOL	PARAMETER	CONDITIONS	MIN	Typ	MAX	UNIT
G <sub>p</sub>	power gain	f=50MHz	19.5	20.0	21.0	dB
SL	slope cable equivalent	f=50 to 1000MHz	0.7	1.2	2.2	dB
FL	flatness of frequency response	f=50 to 1000MHz	-	-	±0.5	dB
S <sub>11</sub>	input return losses	f=40 to 700MHz	16	-	-	dB
		f=700 to 1000MHz	14	-	-	
S <sub>22</sub>	output return losses	f=40 to 700MHz	12	-	-	dB
		f=700 to 1000MHz	12	-	-	
CTB	composite triple beat	84 channels flat; V <sub>o</sub> = 40 dBmV; measured at 743.25 MHz	-	-64	-	dB
CSO	composite second order distortion	84 channels flat; V <sub>o</sub> = 40 dBmV; measured at 744.5 MHz	-	-66	-	dB
X <sub>mod</sub>	cross modulation	84 channels flat; V <sub>o</sub> = 40 dBmV; measured at 55.25 MHz	-	-65	-	dB
F	noise figure	f=1000MHz	-	-	7.5	dB
I <sub>tot</sub>	total current consumption (DC)	VB=+24V	200	210	220	mA

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### ★ PACKAGE OUTLINE

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes;  
2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads

SOT115J



DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A <sub>2</sub> max.	b	c	D max.	d max.	E max.	e	e <sub>1</sub>	F	L min.	p	Q max.	q	q <sub>1</sub>	q <sub>2</sub>	S	U <sub>1</sub>	U <sub>2</sub>	W	w	x	y	Z max.
mm	20.8	9.1	0.51 0.38	0.25	27.2	2.54	13.75	2.54	5.08	12.7	8.8	4.15 3.85	2.4	38.1	25.4	10.2	4.2	44.75 44.25	8.2 7.8	6-32 UNC	0.25	0.7	0.1	3.8

UNIT: mm