

Features

- Single 3.0 to 5.0 Vdc Operation
- High Isolation to Buffer VCO, or any Sensitive Circuit
- 0 dBm Output Power at 50 Ohm Load
- Power-down Capability
- Use to Drive EC-5007 LO port

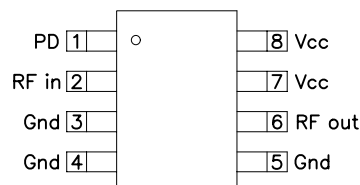
Applications

- AMPS
- Portable Battery-powered Equipment
- ISM
- Spread Spectrum
- Cellular
- GSM
- PCS

Description

The EC-0006 is a broadband, high-isolation limiting amplifier, optimized for commercial mobile communications. Utilizing advanced Gallium Arsenide heterojunction bipolar transistor technology (GaAs HBT), the amplifier features high reverse isolation and excellent VSWR. The EC-0006 operates from a single 3.0 to 5.0 volt supply, and is available in a low-cost, surface-mountable plastic SOIC-8 package.

Package



SOIC-8
(Top View)

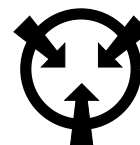
Electrical Specifications

Test Conditions: $T_a = 25^\circ\text{C}$, $V_{CC} = +3.0\text{ V}$, V_{PD} (power-down voltage) = +3.0 V, $F = 1900\text{ MHz}$

SYMBOL	PARAMETER	LIMITS			UNIT	TEST CONDITION
		MIN.	TYP.	MAX.		
F	Frequency	500		3000	MHz	
G	Gain	23	25	30	dB	NOTE 1
P_{sat}	Saturated Output Power	-2.5	0	4	dBm	NOTE 1
NF	Noise Figure		8		dB	NOTE 1
ISOL	Isolation		40		dB	
IRL	Input Return Loss		10		dB	
I_{CC}	Supply Current	8	11	14	mA	
I_{CCPD}	Supply Current, Power-down Mode		0.5		μA	NOTE 2
V_{CC}	Supply Voltage	3.0		5.0	Vdc	
NOTE 1: Using Application Schematic						
NOTE 2: $V_{CC}=3.0\text{ V}$, $V_{PD}=0.0\text{ V}$						

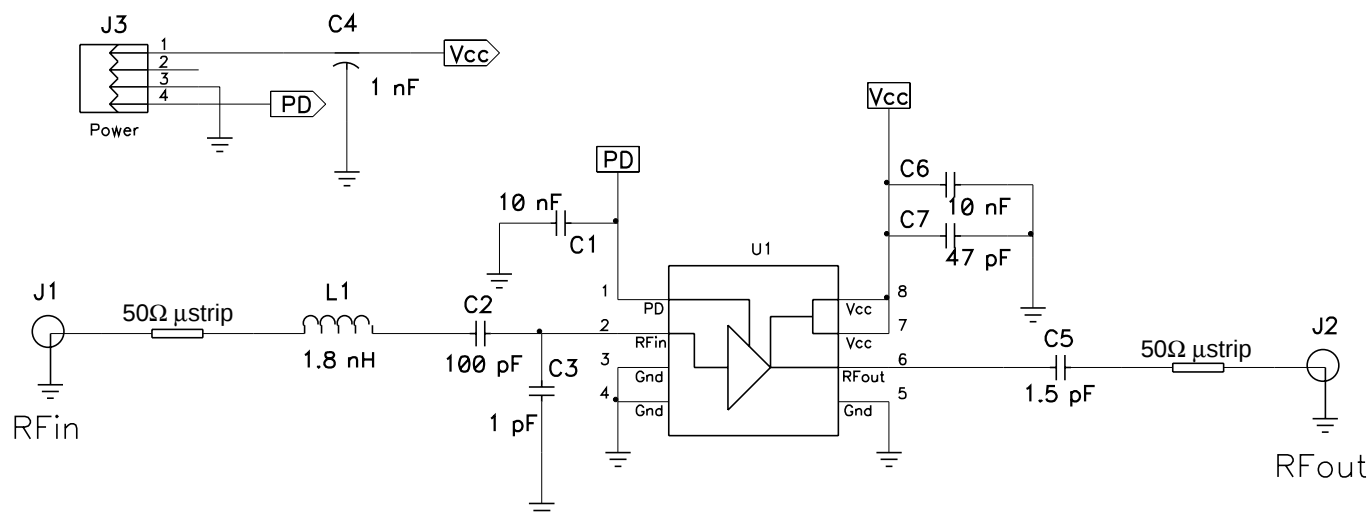
Absolute Maximum Ratings

PARAMETER	RATING	UNIT	TEST CONDITION
Supply Voltage	8	Volts	$V_{PD}=3.0\text{ V}$
Power-down Voltage	3.5	Volts	$V_{CC}=V_{PD}$
RF Power Input	0	dBm	$V_{CC}, V_{PD}=3.0\text{ V}$
Ambient Operating Temperature	-40 to +85	$^\circ\text{C}$	



CAUTION!
SENSITIVE ELECTRONIC DEVICE

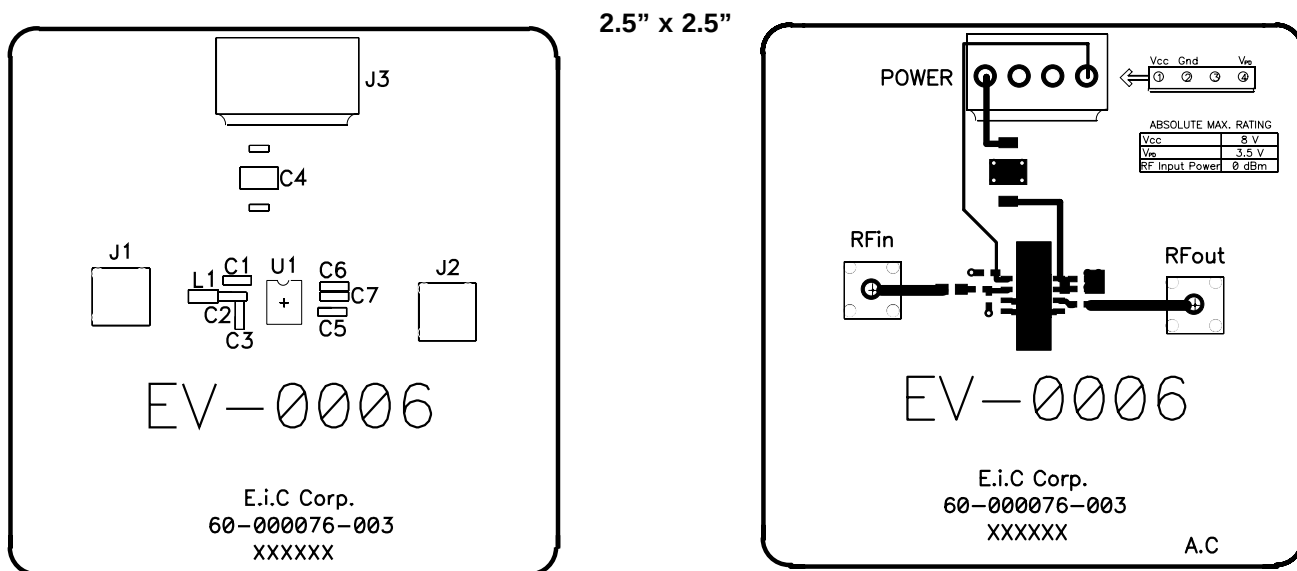
Evaluation Board Application Schematic



Evaluation Board Materials

MANUFACTURER	PART NUMBER	QTY.	DESCRIPTION	VALUE	DESIGNATORS
TOKO	LL2012-F1N8S	1	Inductor (0805)	1.8 nH	L1
MMC	CC103K1NR	2	Capacitor (0603)	10 nF	C1, C6
MMC	CE101J1N0	1	Capacitor (0603)	100 pF	C2
MMC	CE1R10C1N0	1	Capacitor (0603)	1 pF	C3
MMC	CE1R5C1N0	1	Capacitor (0603)	1.5 pF	C5
MMC	CE470J1N0	1	Capacitor (0603)	47 pF	C7
FAI	NFM61R10T102T1	1	Feedthru Cap	1 nF	C4
Jameco	104791	1	.156" Center Header	-	J3
1st Source	R124.680.120	2	Right Angle SMA Connector	-	J1, J2
EiC Corp	EC-0006	1	Limiting Amplifier	-	U1
EiC Corp	60-000076-003	1	PCB	-	-

Evaluation Board Layout



Typical Characteristics
(using EiC's EV-0006 Evaluation Board)
Matched @ 1900 MHz

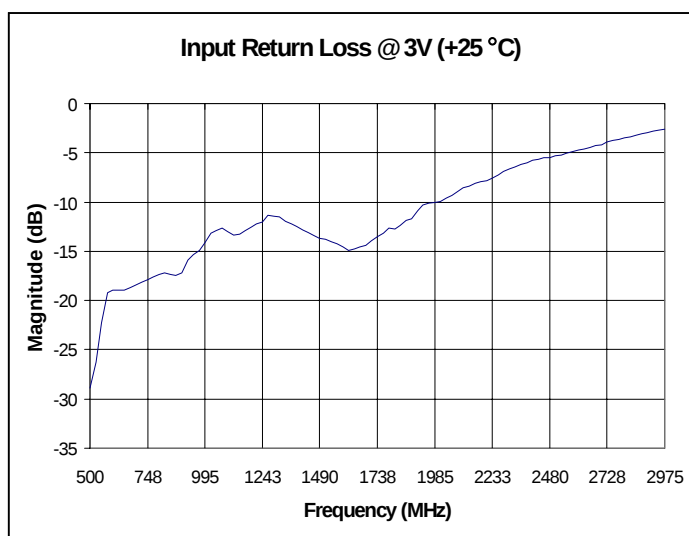


Figure 1

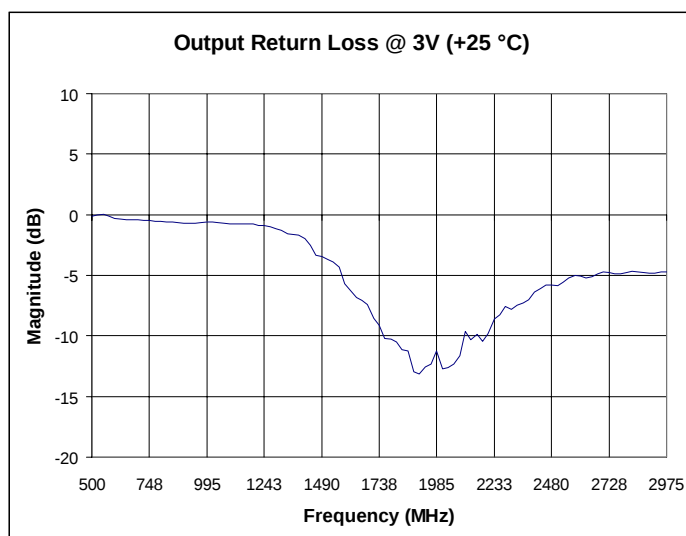


Figure 2

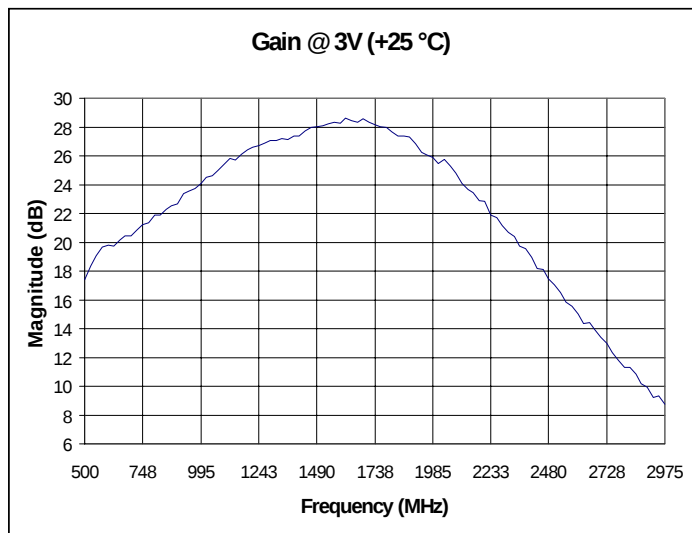


Figure 3

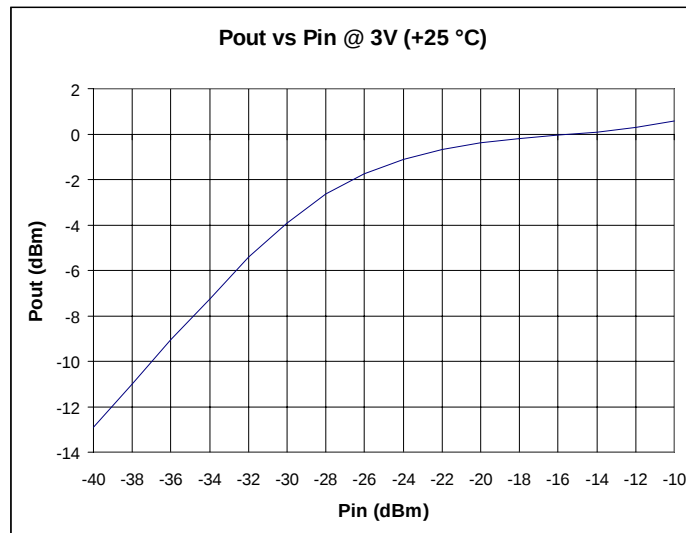
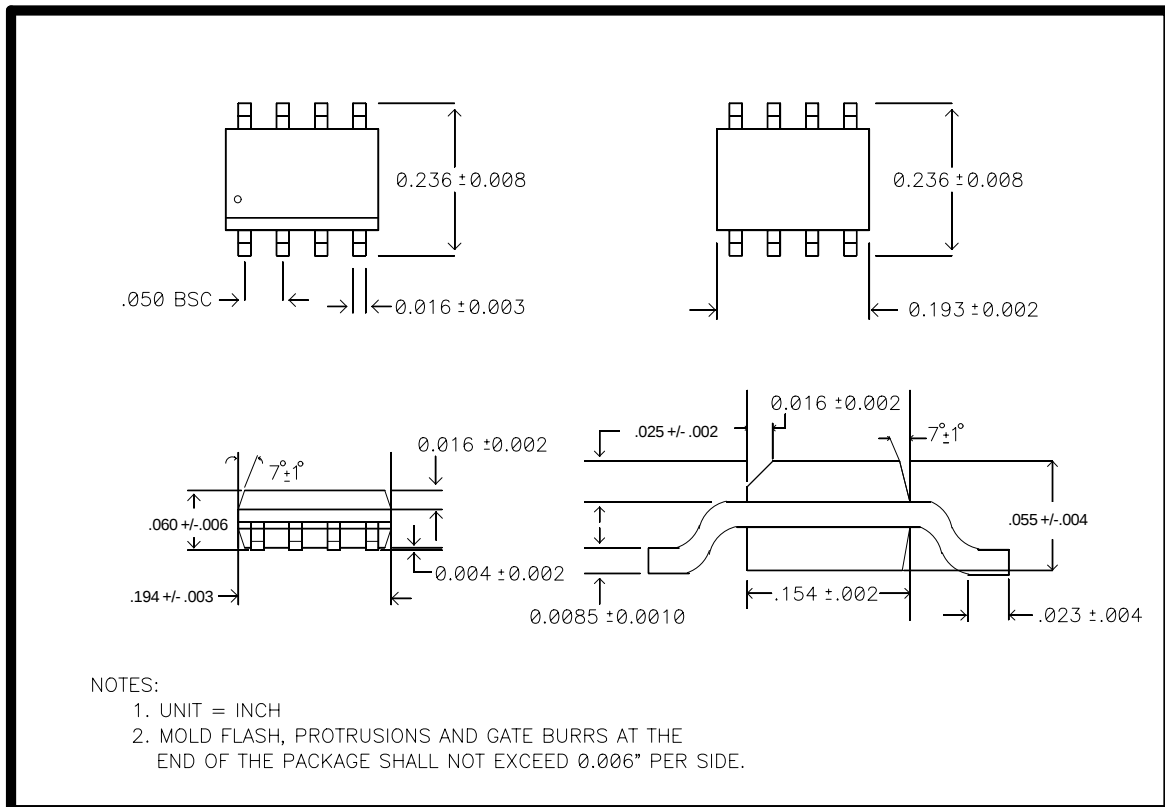


Figure 4

NOTE: Similar results are obtainable at other frequencies, with minor changes in external matching.

Package Outline

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