



# SMA3117

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ , $V_{CC} = 5\text{ V}$ , $Z_s = Z_L = 50\ \Omega$ )

Symbol	Parameter	Conditions	Ratings			Unit
			Min	Typ	Max	
$I_{CC}$	Circuit Current		18.5	22.7	28.0	mA
$G_p$	Power Gain	$f = 1\text{ GHz}$	29.5	31.2	32.5	dB
		$f = 2.2\text{ GHz}$	30.5	33.5	35.5	
ISL	Isolation	$f = 1\text{ GHz}$	35.0	37.6	-	dB
		$f = 2.2\text{ GHz}$	34.0	36.5	-	
RLin	Input Return Loss	$f = 1\text{ GHz}$	9.0	11.2	-	dB
		$f = 2.2\text{ GHz}$	4.5	6.0	-	
RLout	Output Return Loss	$f = 1\text{ GHz}$	11.0	14.3	-	dB
		$f = 2.2\text{ GHz}$	12.0	16.3	-	
NF	Noise Figure	$f = 1\text{ GHz}$	-	4.1	5.0	dB
		$f = 2.2\text{ GHz}$	-	3.9	5.0	
Po(1dB)	Gain 1 dB Compression Output Power (Note 1)	$f = 1\text{ GHz}$	7.5	9.8	-	dBm
		$f = 2.2\text{ GHz}$	3.7	5.7	-	
$f_u$	Upper Limit Operating Frequency (Note 1)	3 dB down below flat gain at $f = 1\text{ GHz}$	-	3.0	-	GHz

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

1. On evaluation board

NOTE: Pay attention to handling since it is liable to be affected by static electricity due to the high frequency process adopted.

### Test Circuit

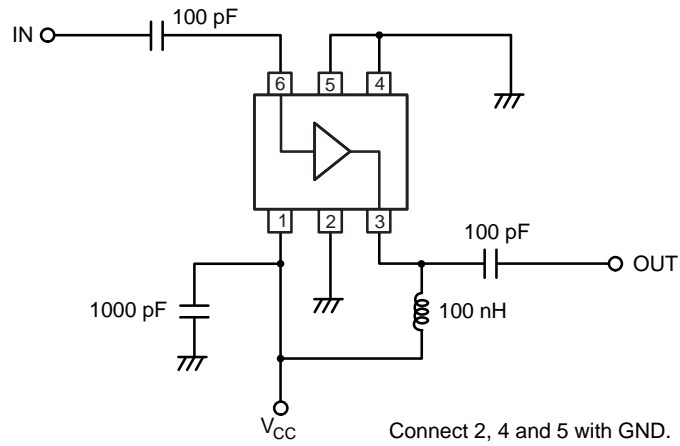


Figure 1. Test Circuit

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## Evaluation Board



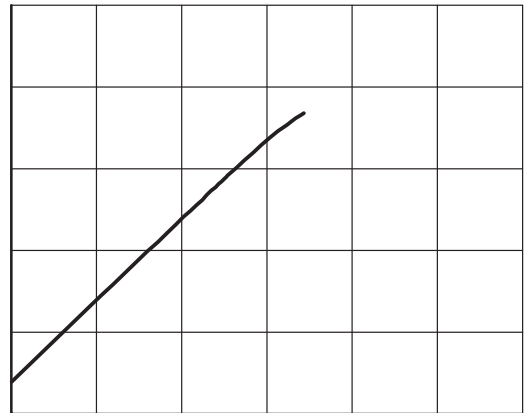
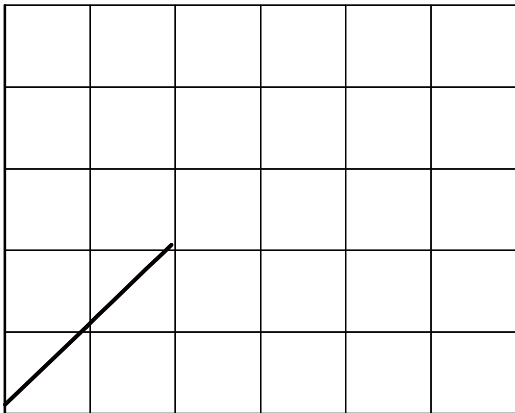
Symbol	Value
C1, C2	100 pF
C3	1000 pF
L1	100 nH

Figure 2. Evaluation Board

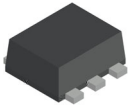
## TYPICAL PERFORMANCE CHARACTERISTICS


# SMA3117

## TYPICAL PERFORMANCE CHARACTERISTICS (continued)

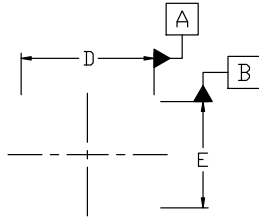






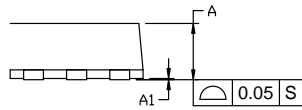
**SC-88FL / MCPH6**  
**CASE 419AS**  
**ISSUE A**

DATE 28 SEP 2022

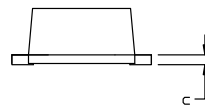


⌀ 0.1 (M) A

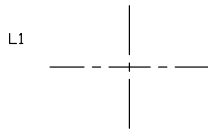
TOP VIEW



SIDE VIEW



FRONT VIEW



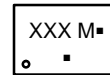
BOTTOM VIEW

NOTES:

1. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND THE BAR PROTRUSIONS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.80	0.85	0.90
A1	0.00	---	0.02
b	0.25	0.30	0.40
c	0.12	0.15	0.25
D	1.94	2.00	2.06
E	1.54	1.60	1.66
He	2.05	2.10	2.15
L	0.19	0.25	0.31
L1	0.00	0.07	0.12

**GENERIC MARKING DIAGRAM\***



- XXX = Specific Device Code
- M = Date Code
- = Pb-Free Package

(Note: Microdot may be in either location)

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

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