

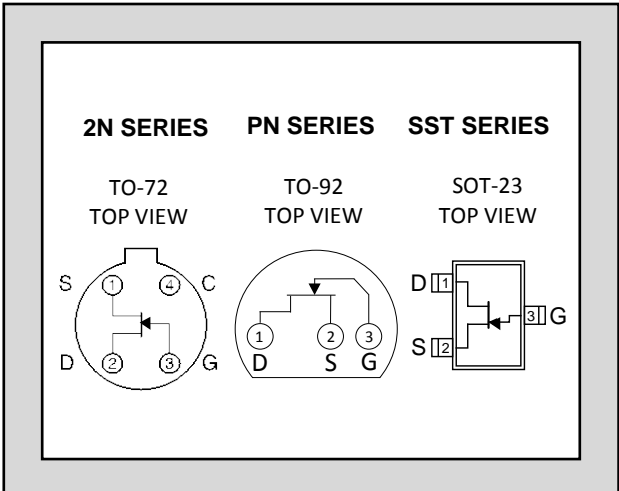
# LINEAR SYSTEMS

Improved Standard Products<sup>®</sup>

## 2N/PN/SST 4117, 4118, 4119

### ULTRA-HIGH INPUT IMPEDANCE N-CHANNEL JFET AMPLIFIER

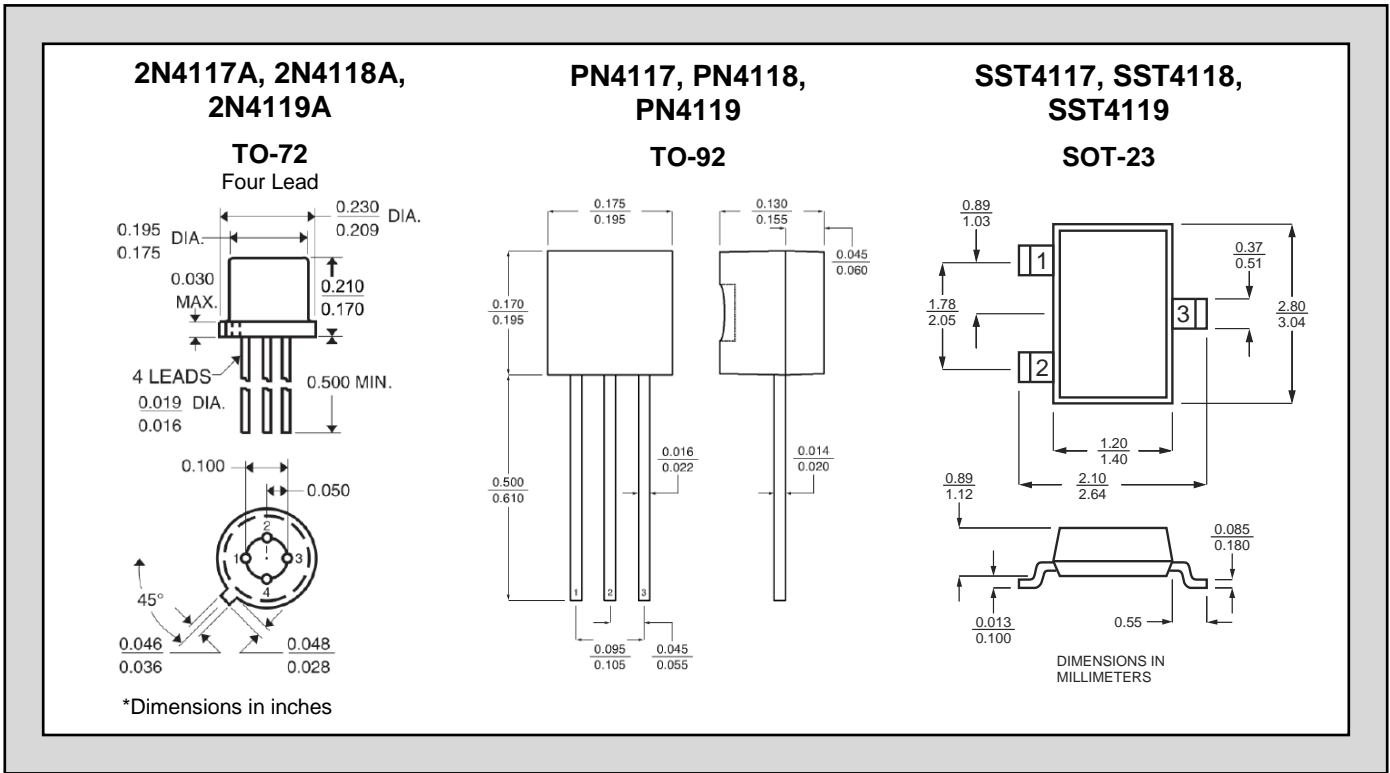
FEATURES	
LOW POWER	$I_{DSS} < 600 \mu A$ (2N4117A)
MINIMUM CIRCUIT LOADING	$I_{DSS} < 1 \text{ pA}$ (2N4117A Series)
ABSOLUTE MAXIMUM RATINGS (NOTE 3) @ 25°C (unless otherwise noted)	
Gate-Source or Gate-Drain Voltage	-40V
Gate-Current	50mA
Total Device Dissipation (Derate 2mW/°C above 25°C)	300mW
Storage Temperature Range	-55°C to +150°C
Lead Temperature (1/16" from case for 10 seconds)	300°C



#### ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	4117		4118		4119		UNITS	CONDITIONS	
		MIN	MAX	MIN	MAX	MIN	MAX			
$BV_{GSS}$	Gate-Source Breakdown Voltage	-40	--	-40	--	-40	--	V	$I_G = -1 \mu A$ $V_{DS} = 0$	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	-0.6	-1.8	-1	-3	-2	-6		$V_{DS} = 10V$ $I_D = 1nA$	
$I_{DSS}$	Saturation Drain Current (NOTE 2)	0.03	0.60	0.08	0.60	0.20	0.80	mA	$V_{DS} = 10V$ $V_{GS} = 0$	
$I_{GSS}$	Gate Reverse Current 2N4117A, 2N4118A, 2N4119A	--	-1	--	-1	--	-1	pA	$V_{GS} = -20V$ $V_{DS} = 0$	150°C
		--	-2.5	--	-2.5	--	-2.5	nA		
	PN4117, PN4118, PN4119 SST4117, SST4118, SST4119	--	-10	--	-10	--	-10	pA	$V_{GS} = -10V$ $V_{DS} = 0$	150°C
		--	-25	--	-25	--	-25	nA		
$g_{fs}$	Common-Source Forward Transconductance	70	450	80	650	100	700	$\mu S$	$V_{DS} = 10V$ $V_{GS} = 0$	f=1kHz
$g_{os}$	Common-Source Output Conductance	--	3	--	5	--	10			
$C_{iss}$	Common-Source Input Capacitance (NOTE 4)	--	3	--	3	--	3	pF	$V_{DS} = 10V$ $V_{GS} = 0$	f=1MHz
$C_{rss}$	Common-Source Reverse Transfer Capacitance (NOTE 4)	--	1.5	--	1.5	--	1.5			

**STANDARD PACKAGE DIMENSIONS:**



**NOTES:**

1. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2. This parameter is measured during a 2 ms interval 100 ms after power is applied. (Not a JEDEC condition.)
3. Absolute maximum ratings are limiting values above which serviceability may be impaired.
4. Not production tested, guaranteed by design.

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