DIDI VFET

SONY VFET Differential In

JFET - EliteSiC - UJ4N Differential Out

Pure Class A - Constant Current

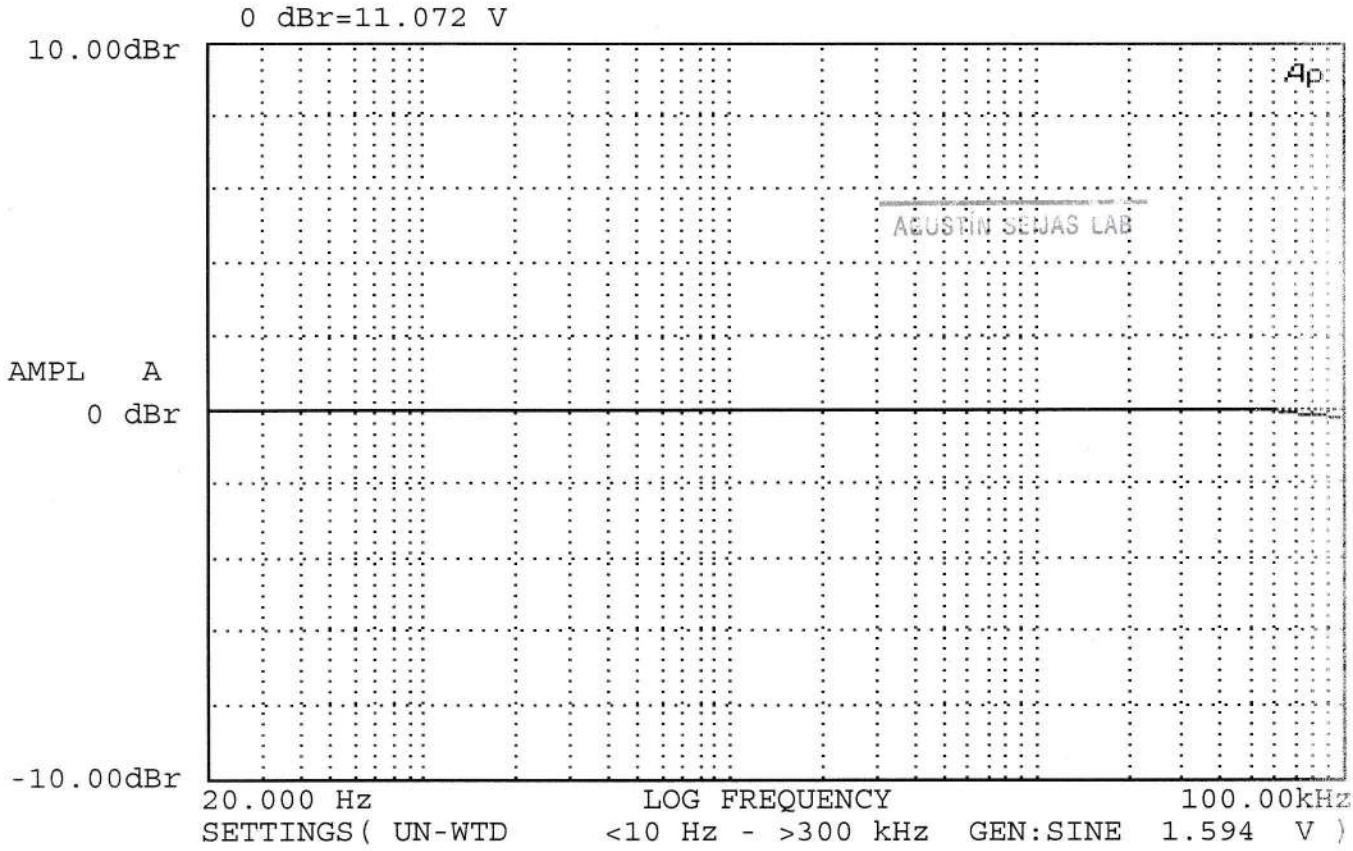
Wideband Transformer Coupled

Assymetric Balanced Singled Ended

Autobias Amplifier

Monoblock

AGUSTINSEIJASLAB.COM



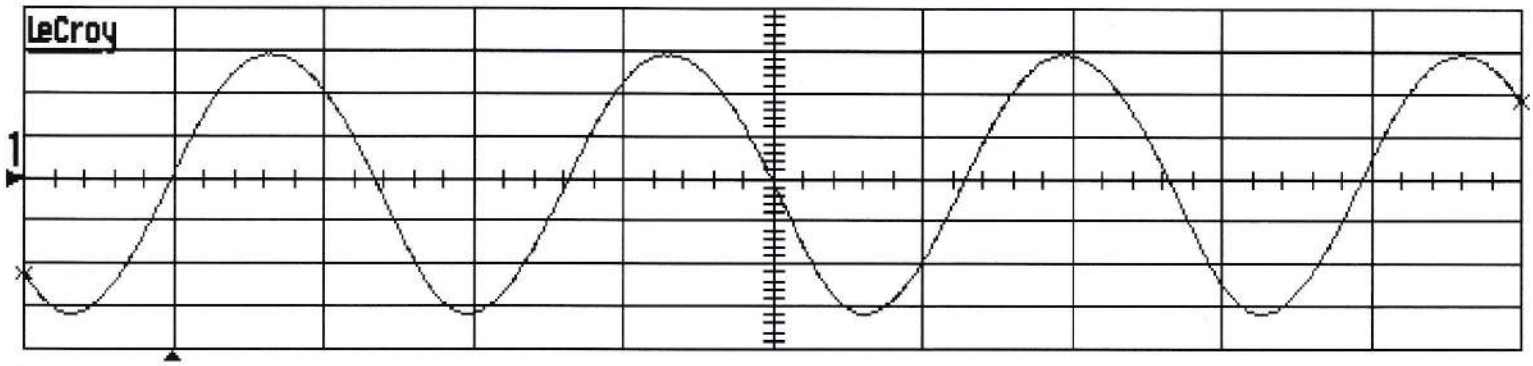
GEN FREQ	AMPL A	GEN FREQ	AMPL A	GEN FREQ	AMPL A
20.00 Hz	-0.02 dBr	454.1 Hz	0.00 dBr	10.313kHz	-0.03 dBr
26.56 Hz	-0.02 dBr	603.2 Hz	0.00 dBr	13.699kHz	-0.03 dBr
35.28 Hz	-0.02 dBr	801.3 Hz	0.00 dBr	18.196kHz	-0.04 dBr
46.87 Hz	-0.02 dBr	1.064 kHz	0.00 dBr	24.170kHz	-0.04 dBr
62.25 Hz	-0.01 dBr	1.413 kHz	0.00 dBr	32.104kHz	-0.04 dBr
82.69 Hz	-0.01 dBr	1.877 kHz	0.00 dBr	42.644kHz	-0.02 dBr
109.8 Hz	-0.01 dBr	2.494 kHz	0.00 dBr	56.643kHz	0.00 dBr
145.9 Hz	-0.01 dBr	3.313 kHz	0.00 dBr	75.238kHz	-0.16 dBr
193.7 Hz	-0.01 dBr	4.400 kHz	0.00 dBr	100.00kHz	-0.21 dBr
257.4 Hz	0.00 dBr	5.845 kHz	-0.01 dBr		
341.9 Hz	0.00 dBr	7.764 kHz	-0.02 dBr		

GEN FREQ	THD+N A	GEN FREQ	THD+N A	GEN FREQ	THD+N A
20.00 Hz	0.520 %	251.7 Hz	0.449 %	3.169 kHz	0.439 %
25.17 Hz	0.496 %	316.9 Hz	0.443 %	3.990 kHz	0.441 %
31.69 Hz	0.501 %	399.0 Hz	0.445 %	5.023 kHz	0.445 %
39.90 Hz	0.489 %	502.3 Hz	0.446 %	6.324 kHz	0.460 %
50.23 Hz	0.484 %	632.4 Hz	0.445 %	7.962 kHz	0.469 %
63.24 Hz	0.479 %	796.2 Hz	0.445 %	10.023kHz	0.485 %
79.62 Hz	0.468 %	1.002 kHz	0.445 %	12.619kHz	0.507 %
100.2 Hz	0.470 %	1.261 kHz	0.444 %	15.886kHz	0.534 %
126.1 Hz	0.460 %	1.588 kHz	0.441 %	20.000kHz	0.554 %
158.8 Hz	0.455 %	2.000 kHz	0.443 %		
200.0 Hz	0.450 %	2.517 kHz	0.437 %		

IMD A	LEVEL A		
1.67 %	9.138 V	GEN:IMD	1.594 V 70Hz/8kHz

GEN FREQ	PHASE A-G	GEN FREQ	PHASE A-G	GEN FREQ	PHASE A-G
20.00 Hz	-0.5 deg	250.0 Hz	-0.3 deg	3.150 kHz	0.3 deg
25.00 Hz	-0.5 deg	315.0 Hz	-0.2 deg	4.000 kHz	0.4 deg
31.50 Hz	-0.4 deg	400.0 Hz	-0.2 deg	5.000 kHz	0.6 deg
40.00 Hz	-0.4 deg	500.0 Hz	-0.2 deg	6.300 kHz	0.8 deg
50.00 Hz	-0.4 deg	630.0 Hz	-0.2 deg	8.000 kHz	1.1 deg
63.00 Hz	-0.3 deg	800.0 Hz	-0.1 deg	10.000kHz	1.4 deg
80.00 Hz	-0.3 deg	1.000 kHz	-0.1 deg	12.500kHz	1.8 deg
100.0 Hz	-0.3 deg	1.250 kHz	0.0 deg	16.000kHz	2.3 deg
125.0 Hz	-0.3 deg	1.600 kHz	0.0 deg	20.000kHz	2.9 deg
160.0 Hz	-0.3 deg	2.000 kHz	0.0 deg		
200.0 Hz	-0.3 deg	2.500 kHz	0.1 deg		

RATIO A/G	FREQ GA		
16.82dB	996.57 Hz	GEN:SINE	1.594 V 1.000 kHz
RATIO A/B	FREQ B		
Low dB	Low Hz	GEN:SINE	1.594 V 1.000 kHz
NOISE A		UN-WTD	22 Hz - 22 kHz
105.5 uV		GEN:SINE	1.594 V 1.000 kHz
NOISE A		UN-WTD	400 Hz - 22 kHz
13.86 uV		GEN:SINE	1.594 V 1.000 kHz

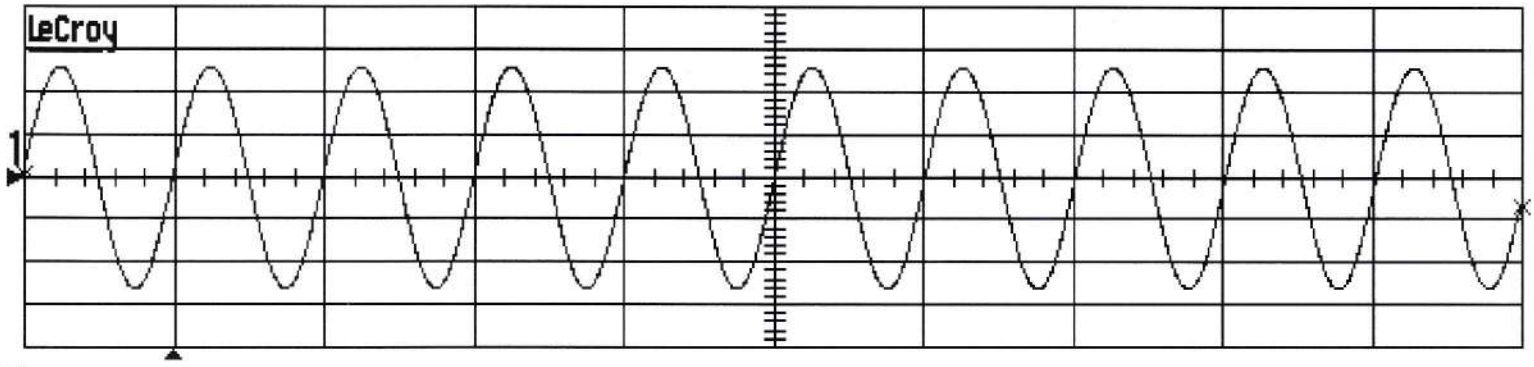


1 2 µs 1.00 V

pkpk(1)		6.09 V	Freq(1)	⎍⎍	188.577 kHz
sdev(1)		2.178 V	period(1)	⎍⎍	5.3029 µs
rms(1)		2.178 V	width(1)	⎍⎍	2.7758 µs
cmean(1)	∿	-2mV	rise(1)	⎍⎍	1.5580 µs
csdev(1)	∿	2.135 V	Fall(1)	⎍⎍	1.5292 µs
crms(1)	∿	2.135 V	r20-80%(1)	⎍⎍	1.0744 µs
top(1)		2.88 V	F80-20%(1)	⎍⎍	1.0692 µs
base(1)		-3.11 V	over+(1)		0.95 %
ampl(1)		5.99 V	over-(1)		0.82 %
mean(1)		1mV	xamn(1)		-1.37131 µs
minimum(1)		-3.16 V	xamx(1)		1.30099 µs
maximum(1)		2.94 V	delay(1)		-55.1 ns
area(1)		23.813 nVs	cycles(1)		3

AGUSTÍN SEÑAS LAB

AUTO

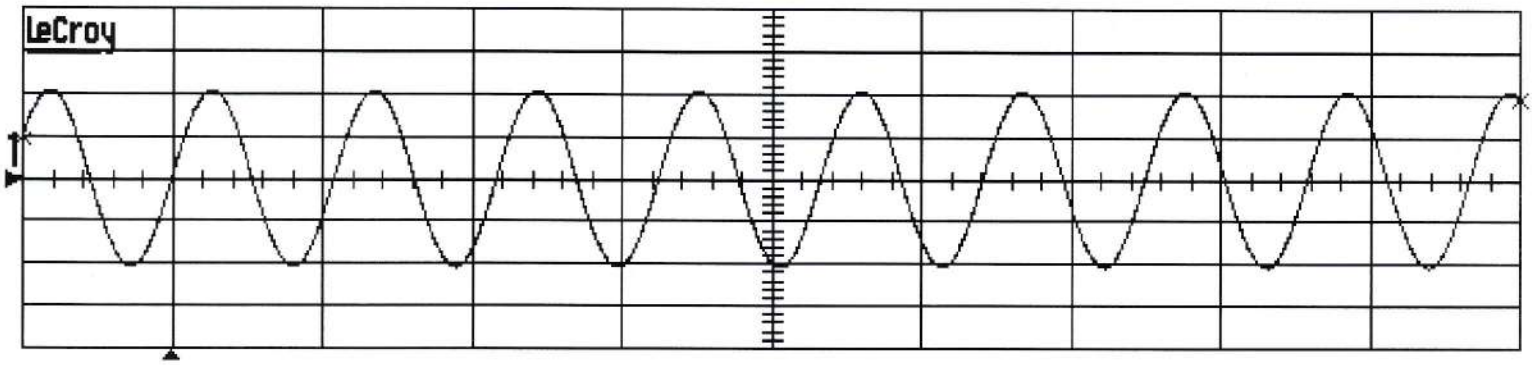


1 10 µs 1.00 V

pkpk(1)		5.22 V	Freq(1)	⎍⎍	99.549 kHz
sdev(1)		1.826 V	period(1)	⎍⎍	10.0453 µs
rms(1)		1.826 V	width(1)	⎍⎍	4.9943 µs
cmean(1)	∿	-3mV	rise(1)	⎍⎍	2.9021 µs
csdev(1)	∿	1.822 V	Fall(1)	⎍⎍	2.9079 µs
crms(1)	∿	1.822 V	r20-80%(1)	⎍⎍	2.0253 µs
top(1)		2.55 V	F80-20%(1)	⎍⎍	2.0204 µs
base(1)		-2.57 V	over+(1)		0.83 %
ampl(1)		5.12 V	over-(1)		1.13 %
mean(1)		-1mV	xamn(1)		-2.55085 µs
minimum(1)		-2.63 V	xamx(1)		-7.58408 µs
maximum(1)		2.59 V	delay(1)		-5.0359 µs
area(1)		-148.188 nVs	cycles(1)		9

AGUSTÍN SEIJAS LAB

AUTO

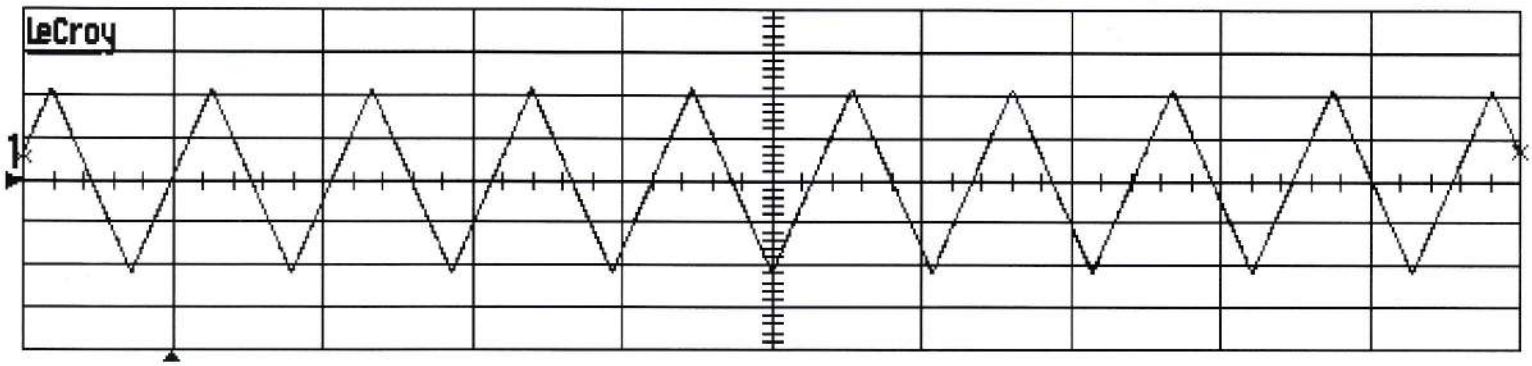


1 50 ms 2.00 V

pkpk(1)		8.38 V	Freq(1)		18.46 Hz
sdev(1)		2.924 V	period(1)		54.1700 ms
rms(1)		2.925 V	width(1)		27.3265 ms
cmean(1)		-3mV	rise(1)		15.3107 ms
csdev(1)		2.906 V	Fall(1)		15.3170 ms
crms(1)		2.906 V	r20-80%(1)		10.5647 ms
top(1)		4.09 V	F80-20%(1)		10.5753 ms
base(1)		-3.99 V	over+(1)		1.23 %
ampl(1)		8.07 V	over-(1)		2.48 %
mean(1)		85mV	xamn(1)		-13.6783 ms
minimum(1)		-4.19 V	xamx(1)		-40.7963 ms
maximum(1)		4.19 V	delay(1)		-27.3725 ms
area(1)		42.5078 mVs	cycles(1)		8

AGUSTÍN SEIJAS LAB

AUTO

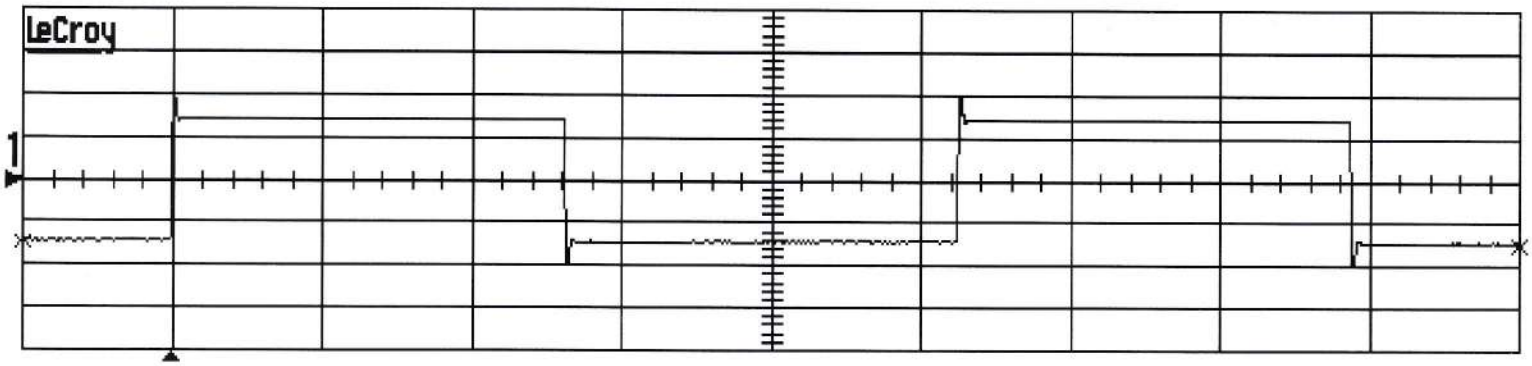


1 1 ms 2.00 V

pkpk(1)		8.75 V	Freq(1)		934.92 Hz
sdev(1)		2.496 V	period(1)		1.06961 ms
rms(1)		2.498 V	width(1)		531.24 µs
cmean(1)		0mV	rise(1)		427.98 µs
csdev(1)		2.480 V	Fall(1)		428.14 µs
crms(1)		2.480 V	r20-80%(1)		318.53 µs
top(1)		4.38 V	F80-20%(1)		319.14 µs
base(1)		-4.38 V	over+(1)		0.00 %
ampl(1)		8.75 V	over-(1)		0.00 %
mean(1)		104mV	xamn(1)		-269.463 µs
minimum(1)		-4.38 V	xamx(1)		-804.258 µs
maximum(1)		4.38 V	delay(1)		-535.81 µs
area(1)		1.03861 mVs	cycles(1)		8

AGUSTÍN SENAS LAB

AUTO

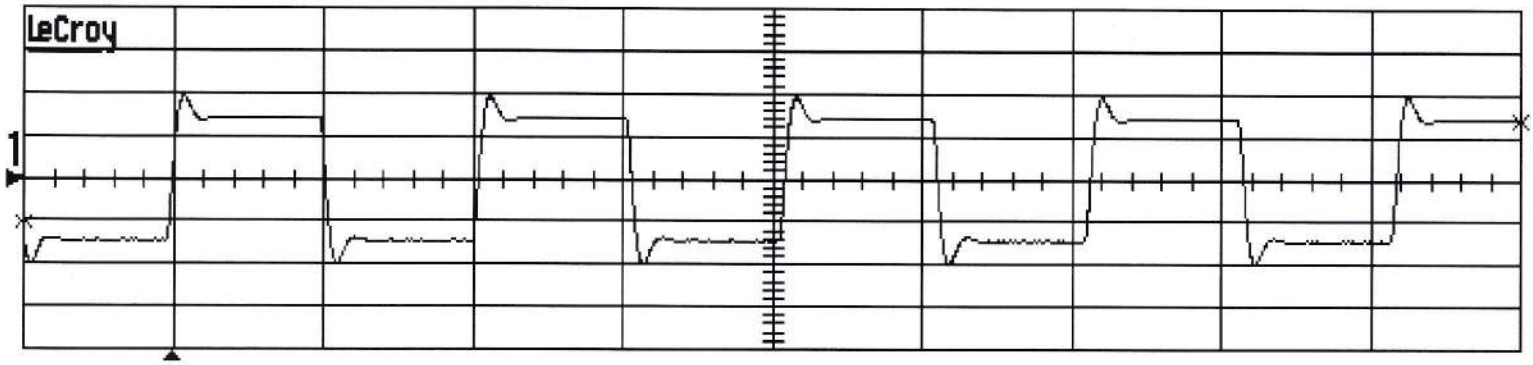


1 .2 ms 2.00 V

pkpk(1)		7.88 V	Freq(1)		951.91 Hz
sdev(1)		2.850 V	period(1)		1.05052 ms
rms(1)		2.854 V	width(1)	⎍⎍	525.779 µs
cmean(1)	∿	0mV	rise(1)	⎍⎍	2.585 µs
csdev(1)	∿	2.853 V	Fall(1)	⎍⎍	2.525 µs
crms(1)	∿	2.853 V	r20-80%(1)	⎍⎍	1.807 µs
top(1)		2.85 V	F80-20%(1)	⎍⎍	1.800 µs
base(1)		-2.88 V	over+(1)		17.96 %
ampl(1)		5.72 V	over-(1)		19.66 %
mean(1)		144mV	xamn(1)		529.969 µs
minimum(1)		-4.00 V	xamx(1)		4.0727 µs
maximum(1)		3.88 V	delay(1)		-61 ns
area(1)		287.438 µVs	cycles(1)		1

AGUSTÍN SEÑAS LAB

□ AUTO

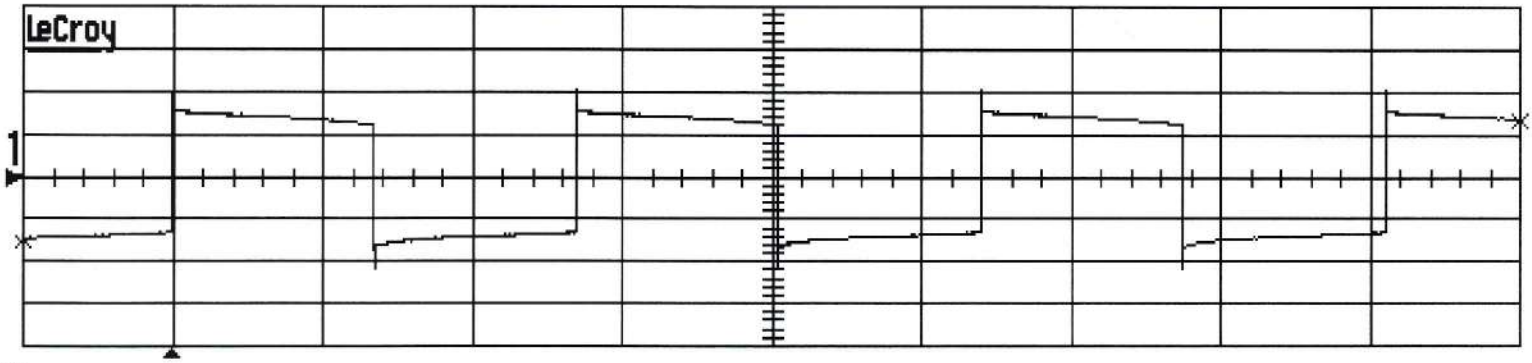


1 50 µs 2.00 V

pkpk(1)		7.94 V	Freq(1)	⎍⎍	9.7800 kHz
sdev(1)		2.874 V	period(1)	⎍⎍	102.250 µs
rms(1)		2.875 V	width(1)	⎍⎍	51.2094 µs
cmean(1)	∿	-2mV	rise(1)	⎍⎍	2.5740 µs
csdev(1)	∿	2.869 V	Fall(1)	⎍⎍	2.5450 µs
crms(1)	∿	2.869 V	r20-80%(1)	⎍⎍	1.8240 µs
top(1)		2.85 V	F80-20%(1)	⎍⎍	1.7911 µs
base(1)		-2.88 V	over+(1)		19.05 %
ampl(1)		5.72 V	over-(1)		19.66 %
mean(1)		-53mV	xamn(1)		-47.3268 µs
minimum(1)		-4.00 V	xamx(1)		4.33916 µs
maximum(1)		3.94 V	delay(1)		-76.6 ns
area(1)		-26.6928 µVs	cycles(1)		4

AGUSTÍN SEIJAS LAB

AUTO

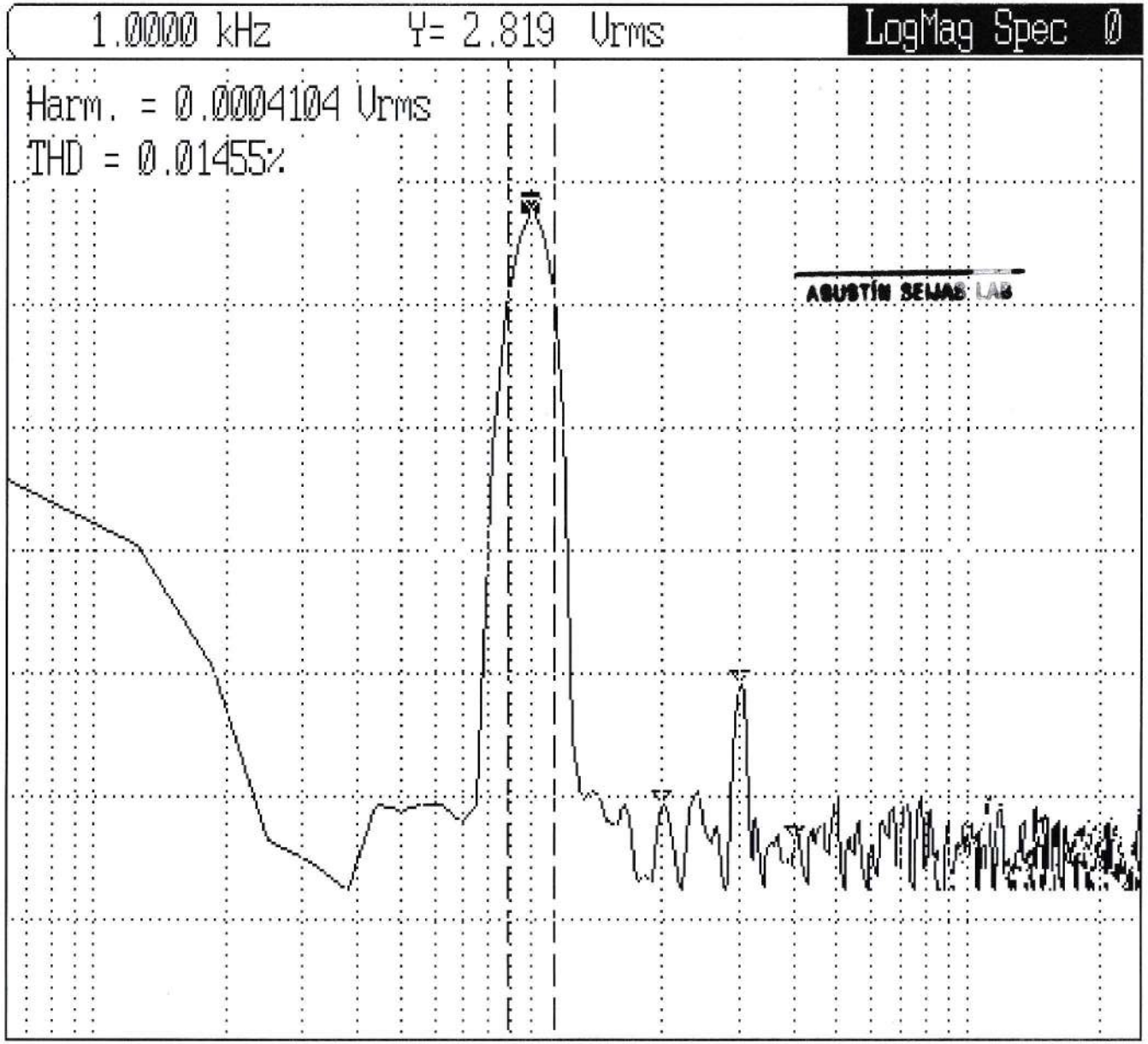


1 20 ms 2.00 V

pkpk(1)		8.56 V	Freq(1)		18.50 Hz
sdev(1)		2.810 V	period(1)		54.0443 ms
rms(1)		2.810 V	width(1)		27.0344 ms
cmean(1)		-2mV	rise(1)		3.1 µs
csdev(1)		2.810 V	Fall(1)		3.4 µs
crms(1)		2.810 V	r20-80%(1)		2.2 µs
top(1)		2.85 V	F80-20%(1)		2.2 µs
base(1)		-2.75 V	over+(1)		23.91 %
ampl(1)		5.60 V	over-(1)		29.01 %
mean(1)		-16mV	xamn(1)		27.0404 ms
minimum(1)		-4.38 V	xamx(1)		4.77 µs
maximum(1)		4.19 V	delay(1)		0.0 µs
area(1)		-3.18250 mVs	cycles(1)		3

AGUSTÍN SEIJAS LAB

AUTO



Span
25 KHz

Linewidth
62.5 Hz

Acq. Time
16.00 ms

Full
Span:

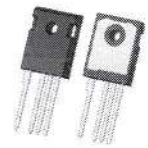
Start Freq.
0.0 kHz

Center Freq.
12.5000 kHz

1/7/76 8:04:02

Silicon Carbide (SiC) JFET – EliteSiC, Power N-Channel, TO247-4, 750 V, 4.8 mohm

UJ4N075005K4S



TO247-4
CASE 340AN

Description

onsemi's UJ4N075005K4S is a 750 V, 4.8 mΩ High-Performance Gen 4 Normally-On SiC JFET Transistor. This device exhibits Ultra-low On resistance ($R_{DS(ON)}$) in a TO247-4L Package, making it an ideal fit to address the Challenging Thermal Constraints of Solid-state Circuit Breakers and Relay Applications. Additionally, the JFET is a Robust Device Technology Capable of the High-Energy Switching Required in Circuit Protection Applications.

Features

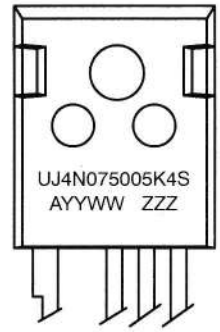
- Single Digit On-Resistance
- Operating Temperature: 175 °C (Max)
- High Pulse Current Capability
- Excellent Device Robustness
- Silver-Sintered Die Attach for Excellent Thermal Resistance
- Low Intrinsic Capacitance
- Short Circuit Rated
- This Device is Pb-Free, Halogen Free and is RoHS Compliant

Typical Applications

- Solid State / Semiconductor Circuit Breaker
- Solid State / Semiconductor Relay
- Battery Disconnects
- Surge Protection
- Inrush Current Control
- Induction Heating

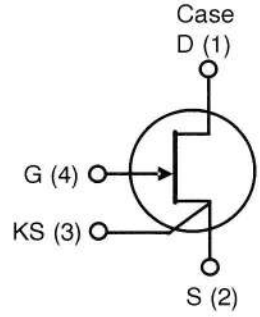
AGUSTÍN SEIJAS LAB

MARKING DIAGRAM



UJ4N075005K4S	= Specific Device Code
A	= Assembly Location
YY	= Year
WW	= Work Week
ZZZ	= Lot ID

PIN CONNECTIONS



ORDERING INFORMATION

See detailed ordering and shipping information on page 6 of this data sheet.