

/ Descriptions

TO-92 NPN Silicon NPN transistor in a TO-92 Plastic Package.

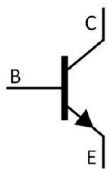
/ Features

2SA1029
Complementary pair with 2SA1029.

/ Applications

Low frequency amplifier r.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

h _{FE} Classifications Symbol	B	C	D
h _{FE} Range	100~200	160~320	250~500

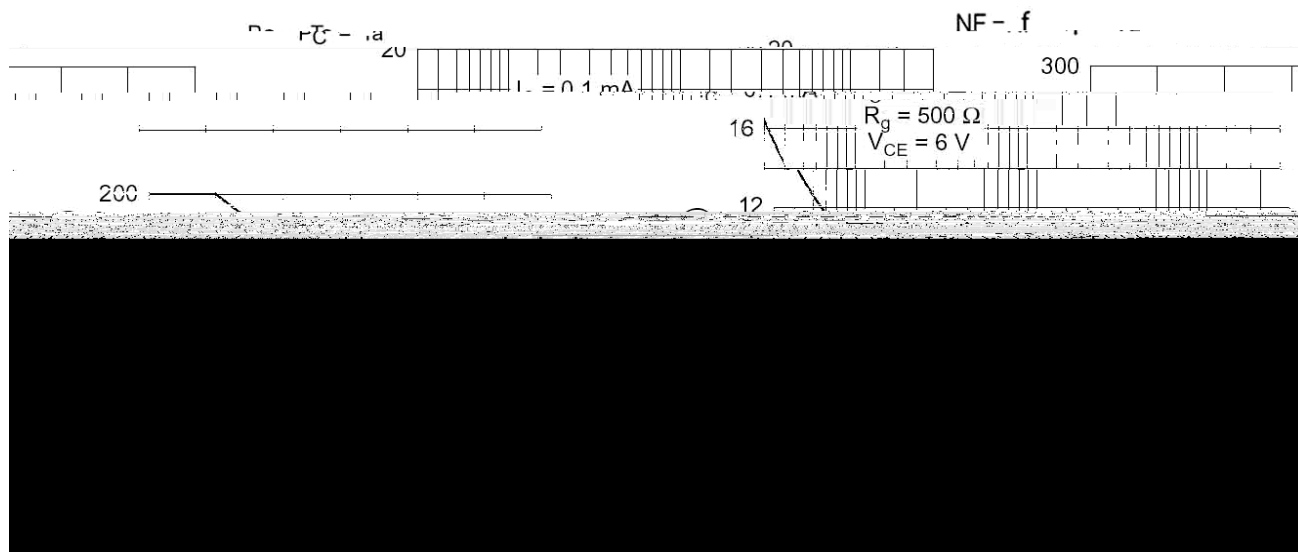
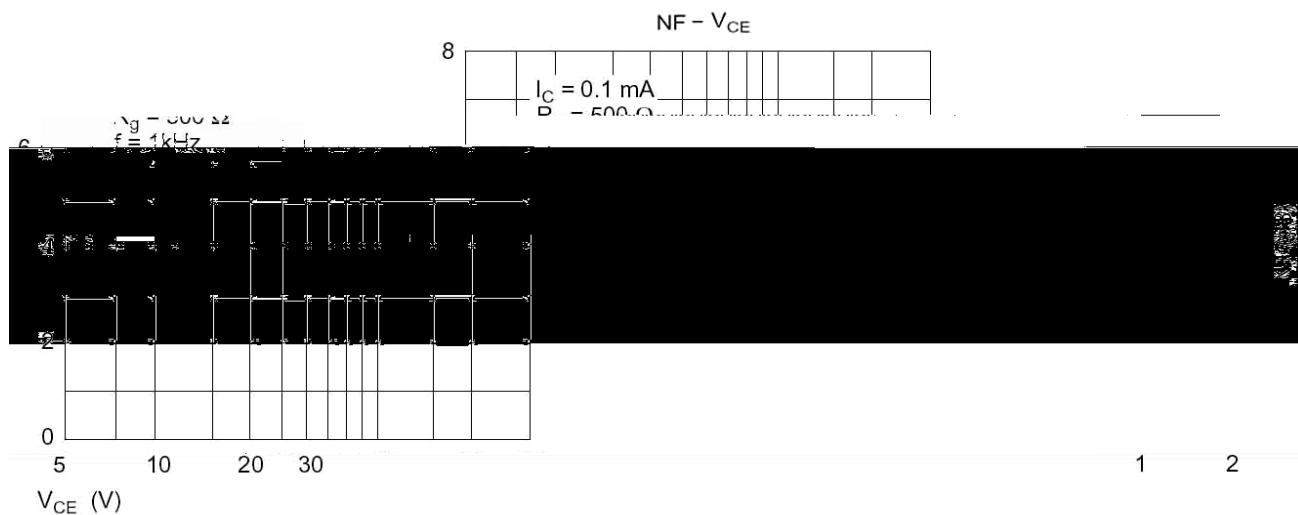
/ Absolute Maximum Ratings (Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	100	mA
Emitter Current - Continuous	I_E	-100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics (Ta=25)

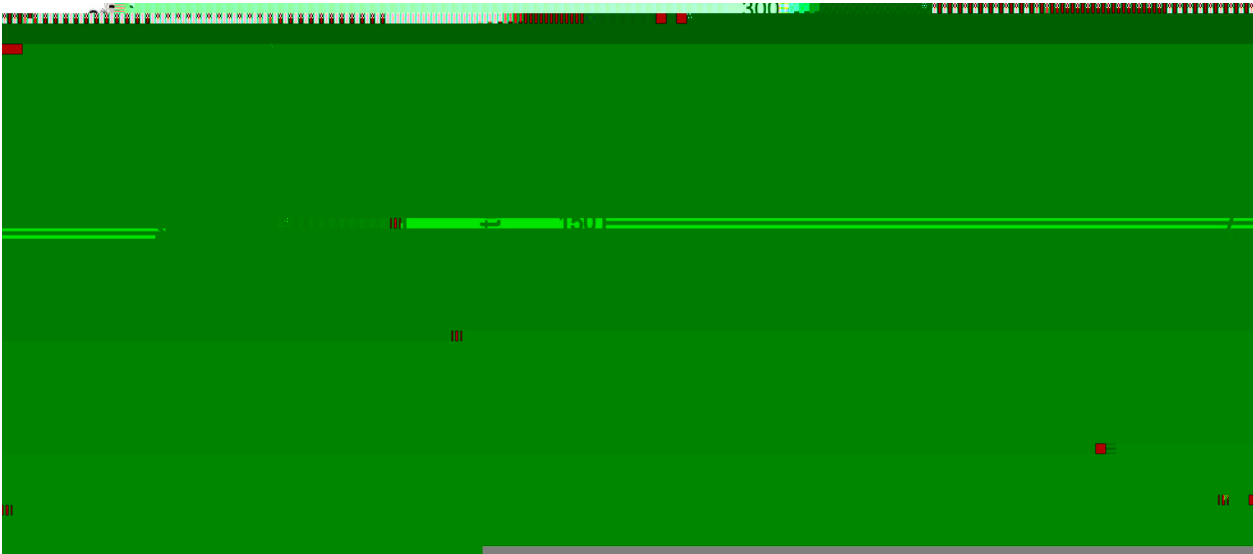
Parameter	Symbol	Test Conditions	Min	Typ		
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	30			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $R_{BE}=\infty$	30			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CE}=18V$ $I_E=0$			0.5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{BE}=2.0V$ $I_C=0$			0.5	μA
DC Current Gain	h	$V_{CE}=12V$ $I_C=2.0mA$	100		500	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA$ $I_B=1.0mA$			0.2	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=12V$ $I_C=2.0mA$		0.67	0.75	V
Collector Output Capacitance	C_c	$V_{CE}=10V$ $f=1.0MHz$ $I_E=0$				
Noise Figure	NF	$V_{CE}=6.0V$ $f=1.0KHz$ $I_C=0.1mA$ $R_{in}=500\Omega$		4.0	10	dB
Small Signal Input Impedance	h_{ie}	$V_{CE}=5.0V$ $f=270Hz$ $I_C=0.1mA$				
Small Signal Voltage Feedback Ratio	h	$V_{CE}=5.0V$ $f=270Hz$ $I_C=0.1mA$				-6
Small Signal Current Feedback Ratio	h	$V_{CE}=5.0V$ $f=270Hz$ $I_C=0.1mA$				
Small Signal Output Admittance	h_{oe}	$V_{CE}=5.0V$ $f=270Hz$ $I_C=0.1mA$				

/ Electrical Characteristic Curve



2SC458

() / Temperature Profile for Dip Soldering(Pb-Free)



- 1

25 150

60 90sec;

2

255±5

5±0.5sec;

3

2 10 /sec.
- Note:
1.Preheating:25~150 , Time:60~90sec.
2.Peak Temp.:255±5 , Duration:5±0.5sec.
3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270±5

10±1 sec.

Temp:270±5

Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units	Dimension	(unit mm3)
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