

## Description

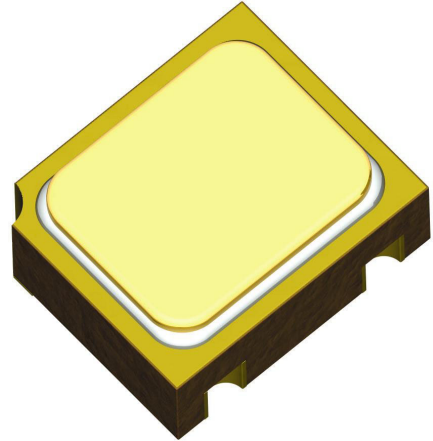
Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N4957UBJ)
- JANTX level (2N4957UBJX)
- JANTXV level (2N4957UBJV)
- QCI to the applicable level
- 100% die visual inspection per MIL-STD-750 method 2072 for JANTXV
- Radiation testing (total dose) upon request

Please contact Semicoa for special configurations  
[www.SEMICOA.com](http://www.SEMICOA.com) or (714) 979-1900

## Applications

- General purpose
- VHF-UHF amplifier transistor
- PNP silicon transistor



## Features

- Hermetically sealed TO-72 metal can
- Also available in chip configuration
- Chip geometry 0006
- Reference document: MIL-PRF-19500/426

## Benefits

- Qualification Levels: JAN, JANTX, and JANTXV
- Radiation testing available

Absolute Maximum Ratings		T <sub>C</sub> = 25°C unless otherwise specified	
Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	30	Volts
Collector-Base Voltage	V <sub>CBO</sub>	30	Volts
Emitter-Base Voltage	V <sub>EBO</sub>	3	Volts
Collector Current, Continuous	I <sub>C</sub>	30	mA
Power Dissipation, T <sub>A</sub> = 25°C Derate linearly above 25°C	P <sub>T</sub>	200 1.14	mW mW/°C
Operating Junction Temperature	T <sub>J</sub>	-65 to +200	°C
Storage Temperature	T <sub>STG</sub>	-65 to +200	°C

## ELECTRICAL CHARACTERISTICS

characteristics specified at  $T_A = 25^\circ\text{C}$

### Off Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1 \text{ mA}$	30			Volts
Collector-Base Cutoff Current	$I_{CBO1}$	$V_{CB} = 20 \text{ Volts}$			100	nA
	$I_{CBO2}$	$V_{CB} = 30 \text{ Volts}$			100	$\mu\text{A}$
	$I_{CBO3}$	$V_{CB} = 20 \text{ Volts}, T_A = 150^\circ\text{C}$			100	$\mu\text{A}$
Emitter-Base Cutoff Current	$I_{EBO1}$	$V_{EB} = 3 \text{ Volts}$			100	$\mu\text{A}$

### On Characteristics

Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
DC Current Gain	$h_{FE1}$	$I_C = 0.5 \text{ mA}, V_{CE} = 10 \text{ Volts}$	15			
	$h_{FE2}$	$I_C = 2 \text{ mA}, V_{CE} = 10 \text{ Volts}$	20			
	$h_{FE3}$	$I_C = 5 \text{ mA}, V_{CE} = 10 \text{ Volts}$	30		165	
	$h_{FE4}$	$I_C = 5 \text{ mA}, V_{CE} = 10 \text{ Volts}$ $T_A = -55^\circ\text{C}$	10			

### Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	$ h_{FE} $	$V_{CE} = 10 \text{ Volts}, I_C = 2 \text{ mA}, f = 100 \text{ MHz}$	12		36	
Common-Emitter small signal power gain	$G_{PE}$	$I_C = 2 \text{ mA}, V_{CE} = 10 \text{ Volts}, f = 450 \text{ MHz}$	17		25	dB
Noise Figure	NF	$V_{CE} = 10 \text{ Volts}, I_C = 2 \text{ mA}, f = 450 \text{ MHz}, R_L = 50 \Omega$			3.5	dB
Collector Base time constant	$r_b' C_C$	$V_{CB} = 10 \text{ Volts}, I_E = 2 \text{ mA}, f = 63.6 \text{ MHz}$	1		8	ps
Collector Base feedback capacitance	$C_{cb}$	$V_{CB} = 10 \text{ Volts}, I_E = 0 \text{ mA}, 100 \text{ kHz} < f < 1 \text{ MHz}$			0.8	pF