

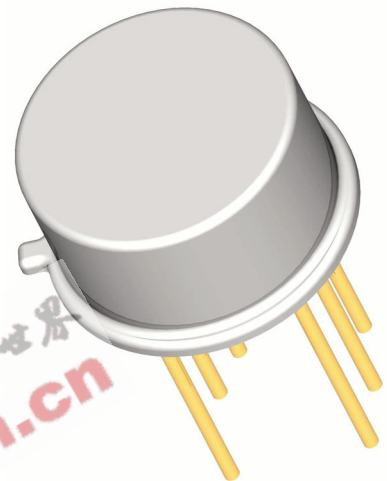
Description

Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N2919J)
- JANTX level (2N2919JX)
- JANTXV level (2N2919JV)
- JANS level (2N2919JS)
- QCI to the applicable level
- 100% die visual inspection per MIL-STD-750 method 2072 for JANTXV and JANS
- Radiation testing (total dose) upon request

Applications

- General purpose
- Matched Dual transistors
- NPN silicon transistor



Features

- Hermetically sealed TO-78 metal can
- Also available in chip configuration
- Chip geometry 0307
- Reference document: MIL-PRF-19500/355

Benefits

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

Please contact Semicoa for special configurations
www.SEMICOA.com or (714) 979-1900

Absolute Maximum Ratings		T _c = 25°C unless otherwise specified	
Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CEO}	60	Volts
Collector-Base Voltage	V _{CBO}	70	Volts
Emitter-Base Voltage	V _{EBO}	5	Volts
Collector Current, Continuous	I _C	50	mA
Power Dissipation, T _A = 25°C Derate linearly above 25°C	P _T	300 one section 600 both sections 1.71one section 3.43 both sections	mW mW/°C
Power Dissipation, T _C = 25°C Derate linearly above 25°C	P _T	750 one section 1.5 both sections 4.286 one section 7.14 both sections	MW W mW/°C
Operating Junction Temperature Storage Temperature	T _J T _{STG}	-65 to +200	°C

ELECTRICAL CHARACTERISTICS

characteristics specified at T_A = 25°C

Off Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 10 mA	60			Volts
Collector-Base Cutoff Current	I _{CBO1}	V _{CB} = 70 Volts			10	μA
	I _{CBO2}	V _{CB} = 45 Volts			2	nA
	I _{CBO3}	V _{CB} = 45 Volts, T _A = 150°C			2.5	μA
Collector-Emitter Cutoff Current	I _{CEO}	V _{CE} = 5 Volts			2	nA
Emitter-Base Cutoff Current	I _{EBO1}	V _{EB} = 6 Volts			10	μA
	I _{EBO2}	V _{EB} = 5 Volts			2	nA

On Characteristics

Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
DC Current Gain	h _{FE1}	I _C = 10 μA, V _{CE} = 5 Volts	60		240	
	h _{FE2}	I _C = 100 μA, V _{CE} = 5 Volts	100		325	
	h _{FE3}	I _C = 1 mA, V _{CE} = 5 Volts	150		600	
	h _{FE4}	I _C = 10 μA, V _{CE} = 5 Volts T _A = -55°C	20			
	h _{FE2-1} /h _{FE2-2}	I _C = 100 μA, V _{CE} = 5 Volts	0.9		1.0	
Base-Emitter Voltage differential	V _{BE1} -V _{BE2} ₁	V _{CE} = 5 Volts, I _C = 10 μA			5	mVolts
	V _{BE1} -V _{BE2} ₂	V _{CE} = 5 Volts, I _C = 100 μA			3	
	V _{BE1} -V _{BE2} ₃	V _{CE} = 5 Volts, I _C = 1 mA			5	
Base-Emitter Voltage differential at temperature	V _{BE1} -V _{BE2} ₁ V _{BE1} -V _{BE2} ₂	V _{CE} = 5 Volts, I _C = 100 μA T _A = 25 °C and -55°C T _A = 25 °C and +125°C			0.8 1	mVolts
Base-Emitter Saturation Voltage	V _{BEsat1}	I _C = 1 mA, I _B = 100 μA	0.5		1.0	Volts
Collector-Emitter Saturation Voltage	V _{CEsat1}	I _C = 1 mA, I _B = 100 μA			0.3	Volts

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	h _{FE1}	V _{CE} = 5 Volts, I _C = 500 μA, f = 20 MHz	3		20	
Small Signal Short Circuit Forward Current Transfer Ratio	h _{FE}	V _{CE} = 10 Volts, I _C = 1 mA, f = 1 kHz	150		600	
Open Circuit Output Capacitance	C _{OBO}	V _{CB} = 5 Volts, I _E = 0 mA, 100 kHz < f < 1 MHz			5	pF
Noise Figure	NF ₁	V _{CE} = 5 Volts, I _C = 10 μA, R _g = 10 kΩ f = 100 Hz			5	dB
	NF ₂	f = 1 kHz			3	
	NF ₃	f = 10 kHz			3	
Short Circuit Input Impedance	h _{ie}	V _{CB} = 5V, I _C = 1mA, f = 1kHz	3		30	kΩ
Open Circuit Output Admittance	h _{oe}	V _{CB} = 5V, I _C = 1mA, f = 1kHz			60	μmhos
Open Circuit reverse Voltage Transfer Ratio	h _{re}	V _{CB} = 5V, I _C = 100μA, f = 1kHz			1x10 ⁻³	