

Description

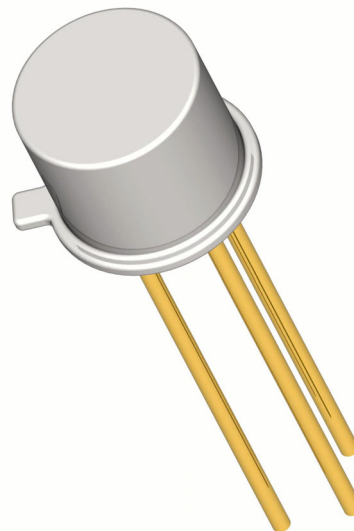
Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N2484J)
- JANTX level (2N2484JX)
- JANTXV level (2N2484JV)
- JANS level (2N2484JS)
- 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

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

Applications

- General purpose
- Low power
- NPN silicon transistor



Features

- Hermetically sealed TO-18 metal can
- Also available in chip configuration
- Chip geometry 0307
- Reference document:
MIL-PRF-19500/376

Benefits

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

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}	60	Volts
Emitter-Base Voltage	V _{EBO}	6	Volts
Collector Current, Continuous	I _C	50	mA
Power Dissipation, T _A = 25°C Derate linearly above 25°C	P _T	360 2.06	mW mW/°C
Thermal Resistance	R _{θJA}	325	°C/W
Operating Junction Temperature	T _J	-65 to +200	°C
Storage Temperature	T _{STG}	-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	$V_{(BR)CEO}$	$I_C = 10\text{ mA}$	60			Volts
Collector-Base Cutoff Current	I_{CBO1}	$V_{CB} = 60\text{ Volts}$			10	μA
	I_{CBO2}	$V_{CB} = 45\text{ Volts}$			5	nA
	I_{CBO3}	$V_{CB} = 45\text{ Volts}, T_A = 150^\circ\text{C}$			10	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE} = 5\text{ Volts}$			2	nA
Collector-Emitter Cutoff Current	I_{CES}	$V_{CE} = 45\text{ Volts}$			5	nA
Emitter-Base Cutoff Current	I_{EBO1}	$V_{EB} = 6\text{ Volts}$			10	μA
	I_{EBO2}	$V_{EB} = 5\text{ Volts}$			2	nA

On Characteristics

Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
DC Current Gain	h_{FE1}	$I_C = 1\text{ }\mu\text{A}, V_{CE} = 5\text{ Volts}$	45			
	h_{FE2}	$I_C = 10\text{ }\mu\text{A}, V_{CE} = 5\text{ Volts}$	200		500	
	h_{FE3}	$I_C = 100\text{ }\mu\text{A}, V_{CE} = 5\text{ Volts}$	225		675	
	h_{FE4}	$I_C = 500\text{ }\mu\text{A}, V_{CE} = 5\text{ Volts}$	250		800	
	h_{FE5}	$I_C = 1\text{ mA}, V_{CE} = 5\text{ Volts}$	250		800	
	h_{FE6}	$I_C = 10\text{ mA}, V_{CE} = 5\text{ Volts}$	225		800	
	h_{FE7}	$I_C = 10\text{ }\mu\text{A}, V_{CE} = 5\text{ Volts}$ $T_A = -55^\circ\text{C}$	35			
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5\text{ Volts}, I_B = 100\text{ }\mu\text{A}$	0.5		0.7	Volts
Collector-Emitter Saturation Voltage	V_{CEsat1}	$I_C = 1\text{ mA}, I_B = 100\text{ }\mu\text{A}$			0.3	Volts

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	$ h_{FE} _1$	$V_{CE} = 5\text{ Volts}, I_C = 50\text{ }\mu\text{A}, f = 5\text{ MHz}$	3			
	$ h_{FE} _2$	$V_{CE} = 5\text{ Volts}, I_C = 500\text{ }\mu\text{A}, f = 30\text{ MHz}$	2		7	
Small Signal Short Circuit Forward Current Transfer Ratio	h_{FE}	$V_{CE} = 5\text{ Volts}, I_C = 1\text{ mA}, f = 1\text{ kHz}$	250		900	
Open Circuit Output Capacitance	C_{OBO}	$V_{CB} = 5\text{ Volts}, I_E = 0\text{ mA}, 100\text{ kHz} < f < 1\text{ MHz}$			5	pF
Open Circuit Input Capacitance	C_{IBO}	$V_{EB} = 0.5\text{ Volts}, I_C = 0\text{ mA}, 100\text{ kHz} < f < 1\text{ MHz}$			6	pF
Noise Figure	NF_1	$V_{CE} = 5\text{ Volts}, I_C = 10\text{ }\mu\text{A}, R_g = 10\text{ k}\Omega, f = 100\text{ Hz}$			7.5	dB
	NF_2	$f = 1\text{ kHz}$			3	
	NF_3	$f = 10\text{ kHz}$			2	
Noise Figure (wideband)	NF_4	$V_{CE} = 5\text{ Volts}, I_C = 10\text{ }\mu\text{A}, R_g = 10\text{ k}\Omega, 10\text{ Hz} < \text{Noise BW} < 15.7\text{ kHz}$			3	dB
Short Circuit Input Impedance	h_{ie}	$V_{CB} = 5\text{ V}, I_C = 1\text{ mA}, f = 1\text{ kHz}$	3.5		24	k Ω
Open Circuit Output Admittance	h_{oe}				40	μmhos
Open Circuit Rev Volt Transfer Ratio	h_{re}				8×10^{-4}	