

Description

SEMICOA Corporation offers:

- Screening and processing per MIL-PRF-19500
- JAN level (2N2605J)
- JANTX level (2N2605JX)
- JANTXV level (2N2605JV)
- 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 or (714) 979-1900

Applications

- Noise-level amplifier circuits
- Low power
- PNP silicon transistor



Features

- Hermetically sealed TO-46 metal can
- Also available in chip configuration
- Chip geometry 0220
- Reference document: MIL-PRF-19500/354

Benefits

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

Absolute Maximum Ratings		$T_C = 25^\circ\text{C}$ 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}	6	Volts
Collector Current, Continuous	I_C	30	mA
Power Dissipation, $T_A = 25^\circ\text{C}$ Derate linearly above 25°C	P_T	400 2.28	mW mW/°C
Thermal Resistance	$R_{\theta JA}$	437	°C/W
Operating Junction Temperature Storage Temperature	T_J 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} I_{CBO2}	$V_{CB} = 70 \text{ Volts}$ $V_{CB} = 50 \text{ Volts}$ $V_{CB} = \text{xx Volts}, T_A = \text{xxx}^\circ\text{C}$			10 10	μA nA
Collector-Emitter Cutoff Current	I_{CES}	$V_{CE} = 50 \text{ Volts}$			10	nA
Emitter-Base Cutoff Current	I_{EBO1} I_{EBO2}	$V_{EB} = 6 \text{ Volts}$ $V_{EB} = 5 \text{ Volts}$			10 2	μA 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} h_{FE2} h_{FE3} h_{FE4}	$I_C = 10 \mu\text{A}, V_{CE} = 5 \text{ Volts}$ $I_C = 500 \mu\text{A}, V_{CE} = 5 \text{ Volts}$ $I_C = 10 \text{ mA}, V_{CE} = 5 \text{ Volts}$ $I_C = 10 \mu\text{A}, V_{CE} = 5 \text{ Volts}$ $T_A = -55^\circ\text{C}$	100 150 100 30		300 450 400	
Base-Emitter Saturation Voltage	V_{BEsat1}	$I_C = 10 \text{ mA}, I_B = 500 \mu\text{A}$	0.7		0.9	Volts
Collector-Emitter Saturation Voltage	V_{CEsat1}	$I_C = 10 \text{ mA}, I_B = 500 \mu\text{A}$			0.3	Volts

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	$ h_{FE} $	$V_{CE} = 5 \text{ Volts}, I_C = 0.5 \text{ mA}, f = 30 \text{ MHz}$	1		8	
Small Signal Short Circuit Forward Current Transfer Ratio	h_{FE}	$V_{CE} = 5 \text{ Volts}, I_C = 1 \text{ mA}, f = 1 \text{ kHz}$	150		450	
Open Circuit Output Capacitance	C_{OBO}	$V_{CB} = 5 \text{ Volts}, I_E = 0 \text{ mA}, 100 \text{ kHz} < f < 1 \text{ MHz}$			6	pF
Noise Figure	NF_1 NF_2 NF_3	$V_{CE} = 5 \text{ Volts}, I_C = 10 \mu\text{A}, R_g = 10 \text{ k}\Omega$ $f = 100 \text{ Hz}$ $f = 1 \text{ kHz}$ $f = 10 \text{ kHz}$			5 3 3	dB
Short Circuit Input Impedance	h_{ie}	$V_{CB} = 5\text{V}, I_C = 1\text{mA}, f = 1\text{kHz}$	2		20	K Ω
Open Circuit Output Admittance	h_{oe}	$V_{CB} = 5\text{V}, I_C = 1\text{mA}, f = 1\text{kHz}$			60	μmhos
Open Circuit reverse Voltage Transfer Ratio	h_{re}	$V_{CB} = 5\text{V}, I_C = 1\text{mA}, f = 1\text{kHz}$			10×10^{-4}	