

Description

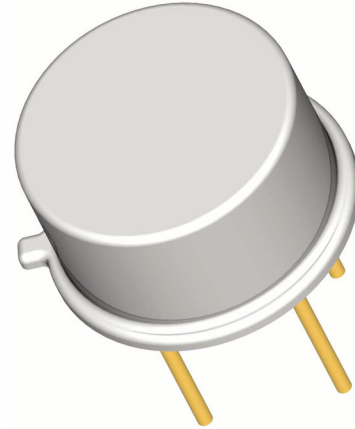
Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N3866AJ)
- JANTX level (2N3866AJX)
- JANTXV level (2N3866AJV)
- JANS level (2N3866AJS)
- 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 high frequency
- VHF-UHF amplifier transistor
- NPN silicon transistor



Features

- Hermetically sealed TO-39 metal can
- Also available in chip configuration
- Chip geometry 1008
- Reference document:
MIL-PRF-19500/398

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}	30	Volts
Collector-Base Voltage	V _{CBO}	60	Volts
Emitter-Base Voltage	V _{EBO}	3.5	Volts
Collector Current, Continuous	I _C	400	mA
Power Dissipation, T _A = 25°C Derate linearly above 25°C	P _T	1 5.71	W mW/°C
Power Dissipation, T _C = 25°C Derate linearly above 25°C	P _T	2.9 16.6	W mW/°C
Thermal Resistance	R _{θJC}	60	°C/W
Operating Junction Temperature	T _J	-65 to +200	°C
Storage Temperature	T _{STG}		

ELECTRICAL CHARACTERISTICS

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

Off Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100 \mu\text{A}$	60			Volts
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5 \text{ mA}$	30			Volts
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100 \mu\text{A}$	3.5			Volts
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE} = 28 \text{ Volts}$			20	μA
Collector-Emitter Cutoff Current	I_{CES1}	$V_{CE} = 55 \text{ Volts}$			100	μA
	I_{CES2}	$V_{CE} = 55 \text{ Volts}, T_A = 150^\circ\text{C}$			2	mA

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}	$I_C = 50 \text{ mA}, V_{CE} = 5 \text{ Volts}$	25		200	
	h_{FE2}	$I_C = 360 \text{ mA}, V_{CE} = 5 \text{ Volts}$	8			
	h_{FE3}	$I_C = 50 \text{ mA}, V_{CE} = 5 \text{ Volts}$	12			
		$T_A = -55^\circ\text{C}$				
Collector-Emitter Saturation Voltage	V_{CEsat1}	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$			1	Volts

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Magnitude – Common Emitter, Short Circuit Forward Current Transfer Ratio	$ h_{FE} $	$V_{CE} = 15 \text{ Volts}, I_C = 50 \text{ mA}, f = 200 \text{ MHz}$	4		7.5	
Open Circuit Output Capacitance	C_{OBO}	$V_{CB} = 28 \text{ Volts}, I_E = 0 \text{ mA},$			3.5	pF
Collector Efficiency	η_1	$V_{CC} = 28 \text{ Volts}, f = 400 \text{ MHz}$ $P_{in} = 0.15 \text{ W}$	45			%
	η_2	$P_{in} = 0.075 \text{ W}$	40			
Power Output	P_{1out}	$V_{CC} = 28 \text{ Volts}, f = 400 \text{ MHz}$ $P_{in} = 0.15 \text{ W}$	1.0		2	Watts
	P_{1out}	$P_{in} = 0.075 \text{ W}$	0.5			