

## Description

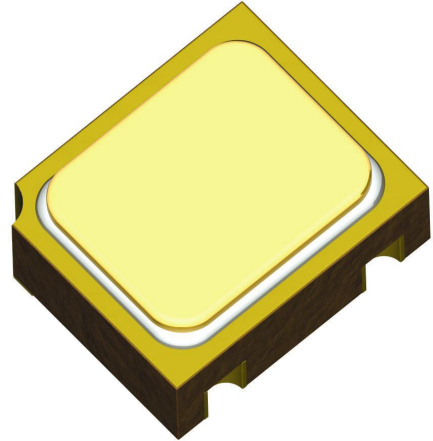
Semicoa Semiconductors offers:

- Screening and processing per MIL-PRF-19500 Appendix E
- JAN level (2N3866UBJ)
- JANTX level (2N3866UBJX)
- JANTXV level (2N3866UBJV)
- JANS level (2N3866UBJS)
- 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](http://www.SEMICOA.com) or (714) 979-1900

## Applications

- General purpose high frequency
- VHF-UHF amplifier transistor
- NPN silicon transistor



## Features

- Hermetically sealed Cersot ceramic
- 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 <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>CB0</sub>	60	Volts
Emitter-Base Voltage	V <sub>EBO</sub>	3.5	Volts
Collector Current, Continuous	I <sub>C</sub>	400	mA
Power Dissipation, T <sub>A</sub> = 25°C Derate linearly above 25°C	P <sub>T</sub>	0.5 2.86	W mW/°C
Thermal Resistance	R <sub>θJA</sub>	325	°C/W
Operating Junction Temperature Storage Temperature	T <sub>J</sub> 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-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	$\mu\text{A}$
Collector-Emitter Cutoff Current	$I_{CES1}$	$V_{CE} = 55 \text{ Volts}$			100	$\mu\text{A}$
	$I_{CES2}$	$V_{CE} = 55 \text{ Volts}, T_A = 150^\circ\text{C}$			2	mA

### 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	$h_{FE1}$	$I_C = 50 \text{ mA}, V_{CE} = 5 \text{ Volts}$	15		200	
	$h_{FE2}$	$I_C = 360 \text{ mA}, V_{CE} = 5 \text{ Volts}$	5			
	$h_{FE3}$	$I_C = 50 \text{ mA}, V_{CE} = 5 \text{ Volts}$	7			
		$T_A = -55^\circ\text{C}$				
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} $	$V_{CE} = 15 \text{ Volts}, I_C = 50 \text{ mA}, f = 200 \text{ MHz}$	2.5		8	
Open Circuit Output Capacitance	$C_{OBO}$	$V_{CB} = 28 \text{ Volts}, I_E = 0 \text{ mA},$			3.5	pF
Collector Efficiency	$\eta_1$	$V_{CC} = 28 \text{ Volts}, f = 400 \text{ MHz}$ $P_{in} = 0.15 \text{ W}$	45			%
	$\eta_2$	$P_{in} = 0.075 \text{ W}$	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			