SEMICOA
SEMICONDUCTORS

Data Sheet No. 2N3866A

Type 2N3866A

Geometry 1007
Polarity NPN
Qual Level: JAN - JANS

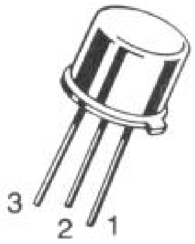
Generic Part Number:
2N3866A

REF: MIL-PRF-19500/398

Features:

Request Quotation

- General-purpose silicon transistor for switching and amplifier applications.
- Housed in TO-39 case.
- Also available in chip form using the 1007 chip geometry.
- The Min and Max limits shown are per MIL-PRF-19500/398 which Semicoa meets in all cases.



TO-39

Maximum Ratings

T_C = 25°C unless otherwise specified

Rating	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	30	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	3.5	V
Collector Current, Continuous	I_C	0.4	A
Operating Junction Temperature	T_J	-55 to +175	°C
Storage Temperature	T_{STG}	-55 to +175	°C

Electrical Characteristics

$T_C = 25^oC$ unless otherwise specified

OFF Characteristics	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage $I_C = 100\ \mu A$, pulsed	$V_{(BR)CBO}$	60	---	V
Collector-Emitter Breakdown Voltage $I_C = 5$ mA, pulsed	$V_{(BR)CEO}$	30	---	V
Collector-Emitter Breakdown Voltage $I_C = 40$ mA, $V_{BE} = -5V$, clamped	$V_{(BR)CEC}$	55	---	---
Emitter-Base Breakdown Voltage $I_E = 100\ \mu A$, pulsed	$V_{(BR)EBO}$	3.5	---	V
Collector-Emitter Cutoff Current $V_{CE} = 55$ V	I_{CES}	---	100	µA
Collector-Emitter Cutoff Current $V_{CE} = 55$ V, $T_A = +150^oC$	I_{CES2}	---	2.0	mA
Collector-Emitter Cutoff Current $V_{CE} = 28$ V	I_{CEO}	---	20	µA

ON Characteristics	Symbol	Min	Max	Unit
Forward Current Transfer Ratio $I_C = 50$ mA, $V_{CE} = 5.0$ V (pulsed) $I_C = 360$ mA, $V_{CE} = 5.0$ V (pulsed) $I_C = 50$ mA, $V_{CE} = 5.0$ V (pulsed), $T_A = -55^oC$	h_{FE1} h_{FE2} h_{FE3}	25 8.0 12	200 --- ---	--- --- ---
Collector-Emitter Saturation Voltage $I_C = 100$ mA, $I_B = 10$ mA (pulsed)	$V_{CE(sat)}$	---	1.0	V dc
Power Output $V_{CC} = 28$ V, $P_{IN} = 0.15$ W, f = 400 MHz	P_{1out}	1.0	2.0	W
Power Output $V_{CC} = 28$ V, $P_{IN} = 0.075$ W, f = 400 MHz	P_{2out}	0.5	---	W
Collector Efficiency $V_{CC} = 28$ V, $P_{IN} = 0.15$ W, f = 400 MHz	n_1	45	---	%
Collector Efficiency $V_{CC} = 28$ V, $P_{IN} = 0.075$ W, f = 400 MHz	n_2	40	---	%

Small Signal Characteristics	Symbol	Min	Max	Unit
Magnitude of Common Emitter, Small Signal, Short Circuit Current Transfer Ratio $I_C = 50$ mA, $V_{CE} = 15$ V, f = 200	$\lvert h_{FE} \rvert$	4.0	7.5	---
Open Circuit Output Capacitance $V_{CB} = 28$ V, $I_E = 0$	C_{OBO}	---	3.5	pF