

**SOT-23 Formed SMD Package**

**CMBT4126**

**GENERAL PURPOSE TRANSISTOR**

*P-N-P transistor*

**Marking**

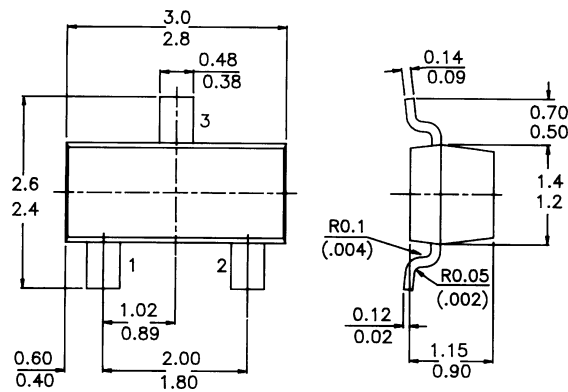
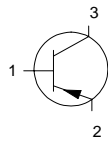
CMBT4126 = 5E

**PACKAGE OUTLINE DETAILS**

ALL DIMENSIONS IN mm

**Pin configuration**

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



**ABSOLUTE MAXIMUM RATINGS**

Collector-base voltage (open emitter)	$-V_{CBO}$	max.	25 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	25 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	4 V
Collector current (d.c.)	$-I_C$	max.	200 mA
Total power dissipation at $T_{amb} = 25^\circ C$	$P_{tot}$	max	350 mW
D.C. current gain	$h_{FE}$	min.	120
$-I_C = 2 \text{ mA}; -V_{CE} = 1 \text{ V}$		max.	360

**RATINGS (at  $T_A = 25^\circ C$  unless otherwise specified)**

*Limiting values*

Collector-base voltage (open emitter)	$-V_{CBO}$	max.	25 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	25 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	4 V
Collector current (d.c.)	$-I_C$	max.	200 mA

## CMBT4126

Total power dissipation at $T_{amb} = 25^{\circ}C$	$P_{tot}$	<i>max</i>	350 mW
Storage temperature	$T_{stg}$		-55 to +150 °C
Junction temperature	$T_j$	<i>max.</i>	150 °C

### THERMAL CHARACTERISTICS

$$T_j = P (R_{th\ j-t} + R_{th\ s-a}) + T_{amb}$$

Thermal resistance

from junction to ambient	$R_{th\ j-a}$	556 °C/mW
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### CHARACTERISTICS (at $T_A = 25^{\circ}C$ unless otherwise specified)

Collector-emitter breakdown voltage

- $I_C = 1\ mA$ ; $I_B = 0$	$-V_{(BR)CEO}$	<i>min.</i>	25 V
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Collector-base breakdown voltage

- $I_C = 10\ \mu A$ ; $I_E = 0$	$-V_{(BR)CBO}$	<i>min.</i>	25 V
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Emitter-base breakdown voltage

- $I_E = 10\ \mu A$ ; $I_C = 0$	$-V_{(BR)EBO}$	<i>min.</i>	4 V
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Collector cut-off current

- $V_{CB} = 20\ V$ ; $I_E = 0\ V$	$-I_{CBO}$	<i>max.</i>	50 nA
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Emitter cut-off current

- $V_{BE} = 3\ V$ ; $I_C = 0$	$I_{EBO}$	<i>max.</i>	50 nA
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Output capacitance at  $f = 1\ MHz$

- $I_E = 0$ ; - $V_{CB} = 5\ V$	$C_c$	<i>max.</i>	4.5 pF
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Input capacitance at  $f = 1\ MHz$

- $I_C = 0$ ; - $V_{BE} = 0.5\ V$	$C_e$	<i>max.</i>	10 pF
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Saturation voltages

- $I_C = 50\ mA$ ; - $I_B = 5\ mA$	$-V_{CEsat}$	<i>max.</i>	0.4 V
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	$-V_{BEsat}$	<i>max.</i>	0.95 V
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D.C. current gain

- $I_C = 2\ mA$ ; - $V_{CE} = 1\ V$	$h_{FE}$	<i>min.</i>	120
		<i>max.</i>	360

- $I_C = 50\ mA$ ; - $V_{CE} = 1\ V$	$h_{FE}$	<i>min.</i>	60
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Noise figure at  $R_S = 1\ k\Omega$

- $I_C = 100\ \mu A$ ; - $V_{CE} = 5\ V$ $f = 10\ Hz$ to $15.7\ kHz$	$NF$	<i>max.</i>	4 dB
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Small signal current gain

- $V_{CE} = 1V$ ; - $I_C = 2\ mA$ ; $f = 1\ KHz$	$h_{fe}$	<i>min.</i>	120
		<i>max.</i>	480

Transition frequency

- $V_{CE} = 20V$ ; - $I_C = 10\ mA$ ; $f = 100\ MHz$	$f_T$	<i>min.</i>	250 MHz
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## Disclaimer

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