

SOT-23 Formed SMD Package

CMMT591

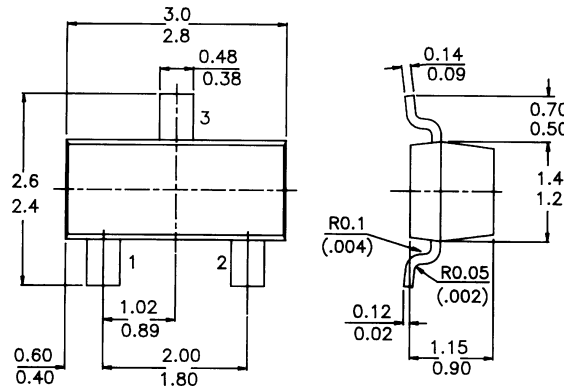
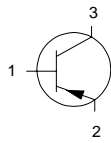
SILICON PLANAR EPITAXIAL TRANSISTORS

PNP transistor

Marking
CMMT = 591

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)	V_{CB0}	max.	80 V
Collector-emitter voltage (open base)	V_{CE0}	max.	60 V
Emitter-base voltage (open collector)	V_{EB0}	max.	5 V
Collector current	I_C	max.	1 A
Peak Pulse current	I_{CM}	max.	2 A
Base current	I_B	max.	200 mA
Total power dissipation at $T_{amb} = 25^\circ C$	P_{tot}	max.	500 mW
Junction temperature	T_j	max.	150 °C
D.C. current gain	h_{FE}	min.	100
		max.	300
Transition frequency at $f = 100$ MHz	f_T	min.	150 MHz
$I_C = 50$ mA; $V_{CE} = 10$ V			

CMMT591

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

Collector-base voltage (open emitter)	V_{CBO}	max.	80 V
Collector-emitter voltage (open base)	V_{CEO}	max.	60 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5 V
Collector current	I_C	max.	1 A
Peak Pulse current	I_{CM}	max.	2 A
Base current	I_B	max.	200 mA
Total power dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	max.	500 mW
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Junction temperature	T_j	max.	150 $^\circ\text{C}$

CHARACTERISTICS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Collector cut-off current

$I_E = 0; V_{CB} = 60\text{ V}$	I_{CBO}	max.	100 nA
$V_{BE} = 0; V_{CE} = 60\text{ V}$	I_{CES}	max.	100 nA

Emitter cut-off current

$V_{EB} = 4\text{ V}; I_C = 0$	I_{EBO}	max.	100 nA
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Breakdown voltages

$I_C = 10\text{ mA}; I_B = 0$	V_{CEO}	min.	60 V
$I_C = 100\ \mu\text{A}; I_E = 0$	V_{CBO}	min.	80 V
$I_E = 100\ \mu\text{A}; I_C = 0$	V_{EBO}	min.	5 V

Base-emitter voltage

$I_C = 1\text{ A}; V_{CE} = 5\text{ V}$	V_{BE}^*	max.	1 V
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Saturation voltage

$I_C = 500\text{ mA}; I_B = 50\text{ mA}$	V_{CEsat}^*	max.	300 mV
$I_C = 1\text{ A}; I_B = 100\text{ mA}$		max.	600 mV
$I_C = 1\text{ A}; I_B = 100\text{ mA}$	V_{BEsat}^*	max.	1.2 V

D.C. current gain

$I_C = 1\text{ mA}; V_{CE} = 5\text{ V}$	h_{FE}	min.	100
$I_C = 500\text{ mA}; V_{CE} = 5\text{ V}^*$		min.	100
		max.	300
$I_C = 1\text{ A}; V_{CE} = 5\text{ V}^*$		min.	80
$I_C = 2\text{ A}; V_{CE} = 5\text{ V}^*$		min.	15

Collector capacitance at $f = 1\text{ MHz}$

$I_E = 0; V_{CB} = 10\text{ V}$	C_{ob}	max.	10 pF
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Transition frequency at $f = 100\text{ MHz}$

$I_C = 50\text{ mA}; V_{CE} = 10\text{ V}$	f_T	min.	150 MHz
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* Measured under pulsed conditions: Pulse width = 300 μs , duty cycle = 2%.

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