

SOT-23 Formed SMD Package

CMBT8598
CMBT8599

GENERAL PURPOSE TRANSISTOR

P-N-P transistor

Marking

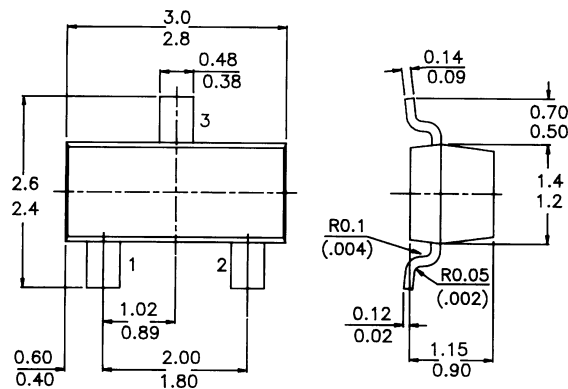
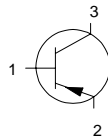
CMBT8598 = 2K

CMBT8599 = 2W

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration

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



ABSOLUTE MAXIMUM RATINGS

		CMBT 8598	8599	
Collector-base voltage (open emitter)	$-V_{CBO}$	max. 60	80	V
Collector-emitter voltage (open base)	$-V_{CEO}$	max. 60	80	V
Emitter-base voltage (open collector)	$-V_{EBO}$	max. 5	5	V
Collector current (d.c.)	$-I_C$	max. 500	500	mA
Total power dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	max. 225	225	mW
D.C. current gain				
$-I_C = 100\text{ mA}; -V_{CE} = 5\text{ V}$	h_{FE}	min. 75	75	

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

Limiting values

Collector-base voltage (open emitter)	$-V_{CBO}$	max. 60	80	V
Collector-emitter voltage (open base)	$-V_{CEO}$	max. 60	80	V
Emitter-base voltage (open collector)	$-V_{EBO}$	max. 5	5	V
Collector current (d.c.)	$-I_C$	max. 500	500	mA

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Total power dissipation at $T_{amb} = 25^{\circ}C$ P_{tot}	max	225	mW
Storage temperature	T_{stg}	-55 to +150	$^{\circ}C$
Junction temperature	T_j	max. 150	$^{\circ}C$

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

Collector-emitter breakdown voltage				
$-I_C = 1\ mA; -I_E = 0$	$-V_{(BR)CEO\ min.}$	60		80 V
Collector-base breakdown voltage				
$-I_C = 10\ \mu A; -I_E = 0$	$-V_{(BR)CBO\ min.}$	60		80 V
Emitter-base breakdown voltage				
$-I_E = 10\ \mu A; -I_C = 0$	$-V_{(BR)EBO\ min.}$	5		5 V
Collector cut-off current				
$-V_{CB} = 20\ V; -I_E = 0$	$-I_{CBO}$	max. 50		50 nA
Emitter cut-off current				
$-V_{BE} = 3\ V; -I_C = 0$	$-I_{EBO}$	max. 50		50 nA
Output capacitance at $f = 100\ kHz$				
$I_E = 0; -V_{CB} = 5\ V$	C_c	max. 4.5		4.5 pF
Input capacitance at $f = 100\ kHz$				
$I_C = 0; -V_{BE} = 0.5\ V$	C_e	max. 30		30 pF
Saturation voltages				
$-I_C = 100\ mA; -I_B = 5\ mA$	$-V_{CEsat}$	max. 0.4		0.4 V
Base emitter voltage				
$I_C = 1\ mA; V_{CE} = 5\ V;$	$V_{BE(on)}$	max. 0.7		- V
$I_C = 10\ mA; V_{CE} = 5\ V$		max. -		0.9 V
D.C. current gain				
$-I_C = 1\ mA; -V_{CE} = 5\ V$	h_{FE}	min. 100		
		max. 300		
$-I_C = 10\ mA; -V_{CE} = 5\ V$	h_{FE}	min. 100		
$-I_C = 100\ mA; -V_{CE} = 5\ V$	h_{FE}	min. 75		
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	max. 5		dB
Transition frequency				
$V_{CE} = 5\ V; I_C = 10\ mA; f = 100\ MHz$	f_T	min. 150		MHz
		max. 225		MHz

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