SOT-23 Formed SMD Package

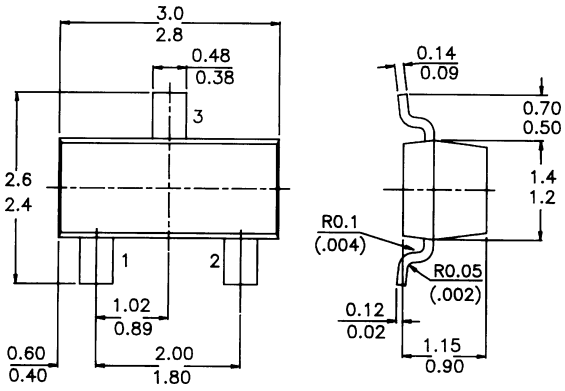
CMBT8598
CMBT8599

GENERAL PURPOSE TRANSISTOR

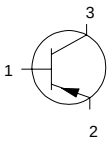
P–N–P transistor

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		*V*
Collector current (d.c.)	$-I_C$	*max.*		500		*mA*
Total power dissipation at T_{amb} = 25°C	P_{tot}	*max.*		225		mW
D.C. current gain						
$-I_C$ = 100 mA; $-V_{CE}$ = 5 V	h_{FE}	*min.*	75		75	

RATINGS *(at T_A = 25°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	*V*	
Collector current (d.c.)	$-I_C$	*max.*		500	*mA*	

Total power dissipation at T_{amb} = 25°C	P_{tot}	*max*	*225*	mW
Storage temperature	T_{stg}		*–55 to +150*	° C
Junction temperature	*Tj*	*max.*	*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

CHARACTERISTICS *(at T_A = 25°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 µA; $–I_E$ = 0	$–V_{(BR)CBO}$	*min.*	*60*		*80*	*V*
Emitter–base breakdown voltage						
$–I_E$ = 10 µA; $–I_C$ = 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						
IC = 1 mA; VCE = 5 V;	*VBE(on)*	*max.*	*0.7*		*-*	*V*
IC = 10 mA; VCE = 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 kΩ						
$–I_C$ = 100 µA; $–V_{CE}$ = 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*

Customer Notes

Disclaimer

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