SOT-23 Formed SMD Package

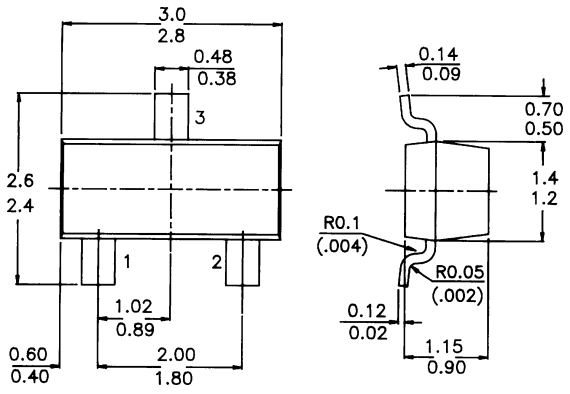
CMBTA05
CMBTA06

SILICON EPITAXIAL TRANSISTORS

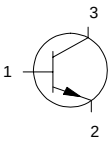
N–P–N transistor

Marking
CMBTA05 = 1H
CMBTA06 = 1G

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm



Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

			CMBTA05	***A06***	
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.*	*4*		*V*
Collector current (d.c.)	I_C	*max.*	*500*		*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*		mW
D.C. current gain					
I_C = 100 mA; V_{CE} = 1 V	h_{FE}	*min.*	*100*		
Transition frequency at f = 100 MHz					
I_C = 10 mA; V_{CE} = 2 V	f_T	*min.*	*100*		MHz
Collector–emitter saturation voltage					
I_C = 100 mA; I_B = 10 mA	V_{CEsat}	*max.*	*0.25*		*V*

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.*	*4*	*V*
Collector current (d.c.)	I_C	*max.*	*500*	*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250*	mW
Storage temperature	T_{stg}	*max.*	*–55 to +150*	*° C*
Junction temperature	*Tj*	*max.*	*150*	*° C*

THERMAL CHARACTERISTICS

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

Thermal resistance				
from junction to ambient	$R_{th\ j-a}$	=	*500*	K/W

CHARACTERISTICS *(at T_A = 25°C unless otherwise specified)*

			CMBTA05 | A06	
Collector–emitter breakdown voltage				
I_C = 1 mA; I_B = 0	$V_{(BR)CEO}$	*min.*	*60 | 80*	*V*
Emitter–base breakdown voltage				
I_C = 0; I_E = 100 mA	$V_{(BR)EBO}$	*min.*	*4*	*V*
Collector cut–off current				
V_{CE} = 60 V; I_B = 0	I_{CEO}	*max.*	*0.1*	mA
V_{CB} = 60 V; I_E = 0	I_{CBO}	*max.*	*0.1*	mA
V_{CB} = 80 V; I_E = 0	I_{CBO}	*max.*	*0.1*	mA
Saturation voltages				
I_C = 100 mA; I_B = 10 mA	V_{CEsat}	*max.*	*0.25*	*V*
Base–emitter on voltage				
I_C = 100 mA; V_{CE} = 1 V	$V_{BE(on)}$	*max.*	*1.2*	*V*
D.C. current gain				
I_C = 10 mA; V_{CE} = 1 V	h_{FE}	*min.*	*100*	
I_C = 100 mA; V_{CE} = 1 V	h_{FE}	*min.*	*100*	
Transition frequency at f = 100 MHz				
I_C = 10 mA; V_{CE} = 2 V	f_T	*min.*	*100*	MHz

Notes

Disclaimer

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