SOT-23 Formed SMD Package

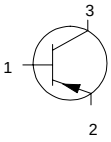
CMBTA55
CMBTA56

SILICON EPITAXIAL TRANSISTORS

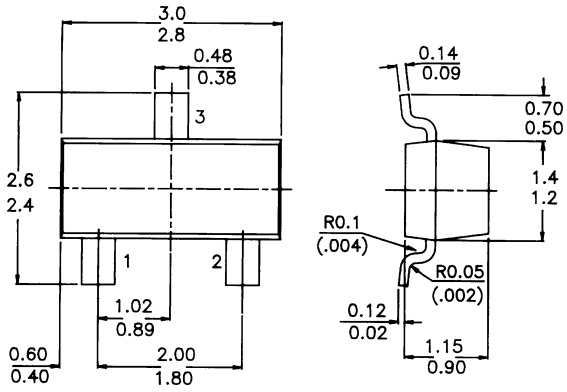
P–N–P transistor

Marking
CMBTA55 = 2H
CMBTA56 = 2G

Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR



PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm



ABSOLUTE MAXIMUM RATINGS

			CMBTA55	*A56*	
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}		*250*		mW
D.C. current gain					
$-I_C$ = 100 mA; $-V_{CE}$ = 1 V	h_{FE}	*min.*	*100*		
Transition frequency at f = 100 MHz					
$-I_C$ = 100 mA; $-V_{CE}$ = 1 V	f_T	*min.*	*50*		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

			CMBTA55	A56	
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}		*–55 to +150*		*° C*
Junction temperature	T_j	*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)*

			CMBTA55	A56	
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 µA	$-V_{(BR)EBO}$	*min.*	*4*		*V*
Collector cut–off current					
$-V_{CE}$ = 60 V; I_B = 0	$-I_{CEO}$	*max.*	*0.1*		*µA*
$-V_{CB}$ = 60 V; I_E = 0	$-I_{CBO}$	*max.*	*0.1*	-	*µA*
$-V_{CB}$ = 80 V; I_E = 0	$-I_{CBO}$	*max.*		*0.1*	*µA*
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					
$-I_C$ = 100 mA; $-V_{CE}$ = 1 V	f_T	*min.*	*50*		MHz

Customer Notes

Disclaimer

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