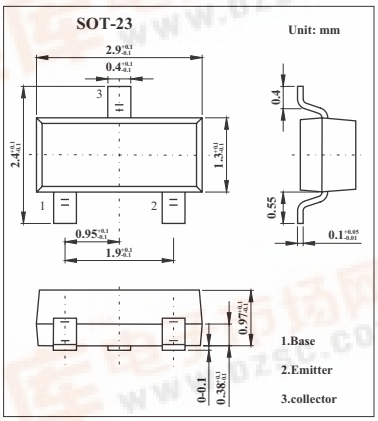
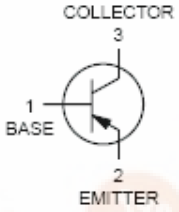
Driver Transistors

MMBTA55,MMBTA56



Features

- SOT-23 package



Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	MMBTA55	MMBTA56	Unit
Collector-emitter voltage	V_{CEO}	-60	-80	V
Collector-base voltage	V_{CBO}	-60	-80	V
Emitter-base voltage	V_{EBO}	-4.0		V
Collector current	I_C	-500		mA
Total Device Dissipation FR-5 Board(* 1) Derate above 25℃	P_D	225 1.8		mW mW/℃
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556		℃/W
Total Device Dissipation Alumina Substrate, (* 2) Derate above 25℃	P_D	300 2.4		mW mW/℃
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417		℃/W
Junction temperature	T_j	150		℃
Storage temperature	T_{stg}	-55 to +150		℃

* 1. FR-5 = 1.0 X 0.75 X 0.062 in.

* 2. Alumina = 0.4 X 0.3 X 0.024 in. 99.5% alumina.

MMBTA55,MMBTA56

■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector-emitter breakdown voltage*	MMBTA55	$V_{(BR)CEO}$	I_C = -1.0 mA, I_B = 0	-60			V
	MMBTA56			-80			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E = -100 μA, I_C = 0	-4.0			V
Base cutoff current		I_{CES}	V_{CE} = -60 V, I_B = 0			-0.1	μA
Collector cutoff current	MMBTA55	I_{CBO}	V_{CB} = -60 V, I_E = 0			-0.1	μA
	MMBTA56		V_{CB} = -80 V, I_E = 0			-0.1	μA
DC current gain		H_{FE}	I_C = -10 mA, V_{CE} = -1.0 V	100			
			I_C = -100 mA, V_{CE} = -1.0 V	100			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = -100 mA, I_B = -10 mA			-0.25	V
Base-emitter saturation voltage		$V_{BE(on)}$	I_C = -100 mA, V_{CE} = -1.0 V			-1.2	V
Current-gain-bandwidth product		f_T	I_C = -100 mA, V_{CE} = -1.0 V, f = 100 MHz	50			MHz

* Pulse test: pulse width ⩽ 300 μs, duty cycle ⩽ 2.0%.

■ h_{FE} Classification

TYPE	MMBTA55	MMBTA56
Marking	2H	2G