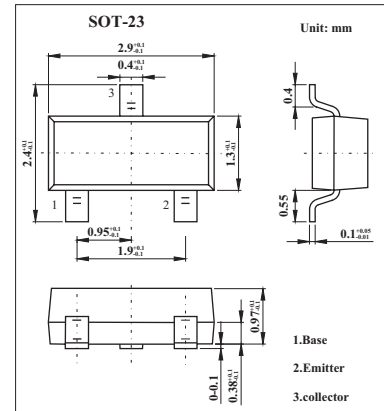
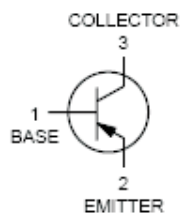


## Driver Transistors

### MMBTA55,MMBTA56

#### ■ Features

- SOT-23 package



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	MMBTA55	MMBTA56	Unit
Collector-emitter voltage	$V_{CE0}$	-60	-80	V
Collector-base voltage	$V_{CB0}$	-60	-80	V
Emitter-base voltage	$V_{EB0}$	-4.0		V
Collector current	$I_C$	-500		mA
Total Device Dissipation FR-5 Board(* 1) Derate above $25^\circ\text{C}$	$P_D$	225		mW
		1.8		mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556		$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (* 2) Derate above $25^\circ\text{C}$	$P_D$	300		mW
		2.4		mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417		$^\circ\text{C}/\text{W}$
Junction temperature	$T_j$	150		$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150		$^\circ\text{C}$

\* 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°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage* MMBTA55 MMBTA56	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1.0 mA, I <sub>B</sub> = 0	-60			V
			-80			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> = 0	-4.0			V
Base cutoff current	I <sub>CES</sub>	V <sub>CE</sub> = -60 V, I <sub>B</sub> = 0			-0.1	μA
Collector cutoff current MMBTA55 MMBTA56	I <sub>CBO</sub>	V <sub>CB</sub> = -60 V, I <sub>E</sub> = 0			-0.1	μA
		V <sub>CB</sub> = -80 V, I <sub>E</sub> = 0			-0.1	μA
DC current gain	H <sub>FE</sub>	I <sub>C</sub> = -10 mA, V <sub>CE</sub> = -1.0 V	100			
		I <sub>C</sub> = -100 mA, V <sub>CE</sub> = -1.0 V	100			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA			-0.25	V
Base-emitter saturation voltage	V <sub>BE(on)</sub>	I <sub>C</sub> = -100 mA, V <sub>CE</sub> = -1.0 V			-1.2	V
Current-gain-bandwidth product	f <sub>T</sub>	I <sub>C</sub> = -100 mA, V <sub>CE</sub> = -1.0 V, f = 100 MHz	50			MHz

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

## ■ hFE Classification

TYPE	MMBTA55	MMBTA56
Marking	2H	2G