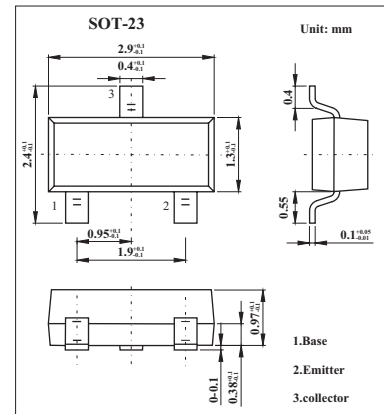


General Purpose Transistor

MMBTA70

■ Features

- General Purpose Transistor

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

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	V_{CEO}	-40	V
Emitter-base voltage	V_{EBO}	-4	V
Collector current	I_C	-100	mA
Total Device Dissipation FR-5 Board (* 1) @ $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (* 2) @ $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW 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 □ 0.75 □ 0.062 in.

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

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1.0 \text{ mA}$, $I_B = 0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100 \mu\text{A}$, $I_C = 0$	-4.0			V
Collector cutoff current	I_{CBO}	$V_{CB} = -30 \text{ V}$, $I_E = 0$			-100	nA
DC current gain	h_{FE}	$I_C = -5.0 \text{ mA}$, $V_{CE} = -10 \text{ V}$	40		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}$, $I_B = -1.0 \text{ mA}$			-0.25	V
Current-gain-bandwidth product	f_T	$I_C = -5.0 \text{ mA}$, $V_{CE} = -10 \text{ V}$, $f = 100 \text{ MHz}$	125			MHz
Output capacitance	C_{obo}	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$			4.0	pF

■ Marking

Marking	M2C
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