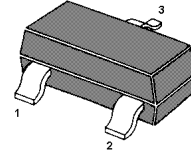


MMBTA13

NPN Silicon Epitaxial Planar Darlington Transistor



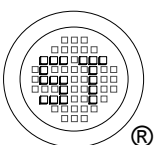
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CB0}	30	V
Collector Emitter Voltage	V_{CES}	30	V
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Power Dissipation	P_{tot}	350	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{Stg}	-55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$	h_{FE} h_{FE}	5,000 10,000	- -	- -
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CB0}	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 10\text{ V}$	I_{EBO}	-	100	nA
Collector Emitter Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CES}$	30	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$	$V_{CE(sat)}$	-	1.5	V
Base Emitter On Voltage at $I_C = 100\text{ mA}$, $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	-	2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	125	-	MHz



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