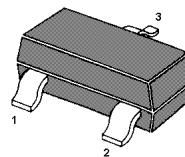


# MMBTA13

## NPN Silicon Epitaxial Planar Darlington Transistor



1. Base 2. Emitter 3. Collector

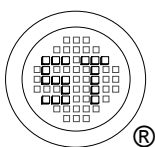
SOT-23 Plastic Package

### 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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