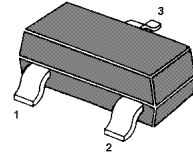


MMBTA42 / MMBTA43

NPN Silicon High Voltage Transistors

for high voltage switching and amplifier applications.



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_{CBO}	300 200	V
Collector Emitter Voltage	V_{CEO}	300 200	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_{C}	500	mA
Power Dissipation	P_{tot}	350	mW
Thermal Resistance Junction to Ambient	$R_{\theta\text{JA}}$	357	$^\circ\text{C/W}$
Junction and Storage Temperature Range	$T_{\text{J}}, T_{\text{stg}}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 1\text{ mA}$	h_{FE}	25	-	-
at $V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 10\text{ mA}$	h_{FE}	80	200	-
at $V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 30\text{ mA}$	h_{FE}	40	-	-
Collector Base Cutoff Current				
at $V_{\text{CB}} = 200\text{ V}$	I_{CBO}	-	0.1	μA
at $V_{\text{CB}} = 160\text{ V}$	I_{CBO}	-	0.1	μA
Emitter Base Cutoff Current				
at $V_{\text{EB}} = 6\text{ V}$	I_{EBO}	-	0.1	μA
at $V_{\text{EB}} = 4\text{ V}$	I_{EBO}	-	0.1	μA
Collector Base Breakdown Voltage				
at $I_{\text{C}} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})\text{CBO}}$	300	-	V
	$V_{(\text{BR})\text{CBO}}$	200	-	V
Collector Emitter Breakdown Voltage				
at $I_{\text{C}} = 1\text{ mA}$	$V_{(\text{BR})\text{CEO}}$	300	-	V
	$V_{(\text{BR})\text{CEO}}$	200	-	V
Emitter Base Breakdown Voltage				
at $I_{\text{E}} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})\text{EBO}}$	6	-	V
Collector Emitter Saturation Voltage				
at $I_{\text{C}} = 20\text{ mA}$, $I_{\text{B}} = 2\text{ mA}$	$V_{\text{CE(sat)}}$	-	0.5	V
Base Emitter Saturation Voltage				
at $I_{\text{C}} = 20\text{ mA}$, $I_{\text{B}} = 2\text{ mA}$	$V_{\text{BE(sat)}}$	-	0.9	V
Gain Bandwidth Product				
at $V_{\text{CE}} = 20\text{ V}$, $I_{\text{C}} = 10\text{ mA}$, $f = 100\text{ MHz}$	f_{T}	50	-	MHz
Collector Output Capacitance				
at $V_{\text{CB}} = 20\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	3	pF
		-	4	pF

