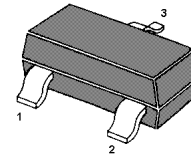


**NPN Silicon High Voltage Transistors**

for high voltage switching and amplifier applications.

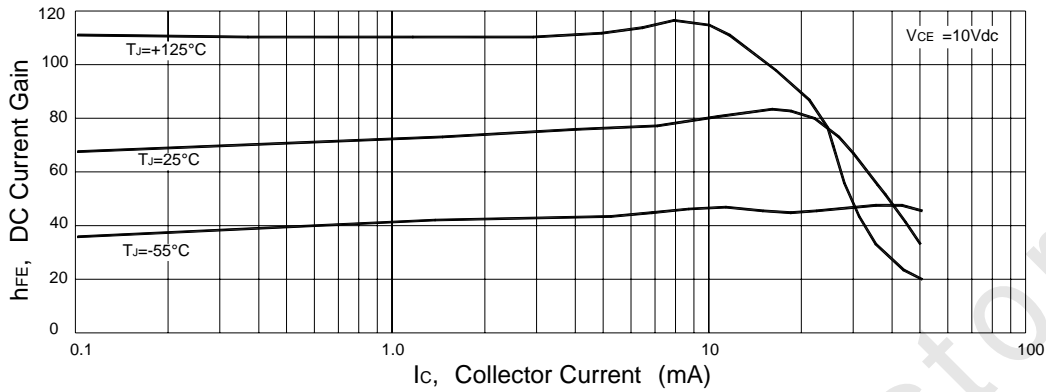
 As complementary types the PNP transistors  
 MMBTA92 are recommended.

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

**Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)**

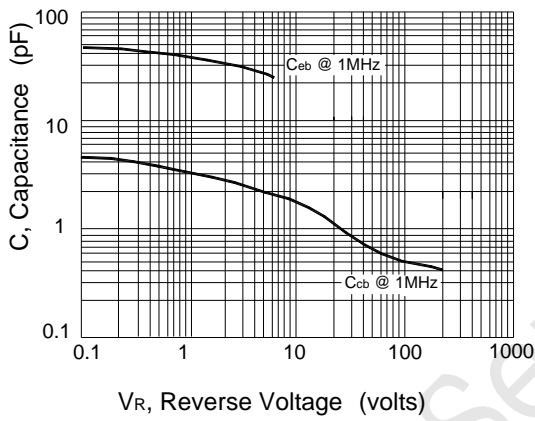
Parameter	Symbol	Value	Unit
Collector Base Voltage	MMBTA42 $V_{CBO}$	200	V
Collector Emitter Voltage	MMBTA42 $V_{CEO}$	200	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	500	mA
Power Dissipation	$P_{tot}$	350	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	357	°C/W
Junction and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150	°C

**Characteristics at T<sub>a</sub> = 25 °C**

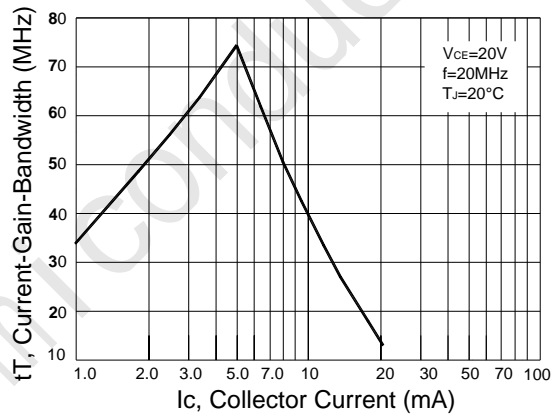
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}, I_C = 1\text{ mA}$ at $V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$ at $V_{CE} = 10\text{ V}, I_C = 30\text{ mA}$	$h_{FE}$ $h_{FE}$ $h_{FE}$	25 40 40	- - -	- - -
Collector Base Cutoff Current at $V_{CB} = 160\text{ V}$	MMBTA42 $I_{CBO}$	-	0.1	μA
Emitter Base Cutoff Current at $V_{EB} = 6\text{ V}$	MMBTA42 $I_{EBO}$	-	0.1	μA
Collector Base Breakdown Voltage at $I_C = 100\text{ μA}$	MMBTA42 $V_{(BR)CBO}$	200	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	MMBTA42 $V_{(BR)CEO}$	200	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ μA}$	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at $I_C = 20\text{ mA}, I_B = 2\text{ mA}$	$V_{CE(sat)}$	-	0.5	V
Base Emitter Saturation Voltage at $I_C = 20\text{ mA}, I_B = 2\text{ mA}$	$V_{BE(sat)}$	-	0.9	V
Gain Bandwidth Product at $V_{CE} = 20\text{ V}, I_C = 10\text{ mA}, f = 100\text{ MHz}$	$f_T$	50	-	MHz
Collector Output Capacitance at $V_{CB} = 20\text{ V}, f = 1\text{ MHz}$	MMBTA42 $C_{ob}$	-	4	pF



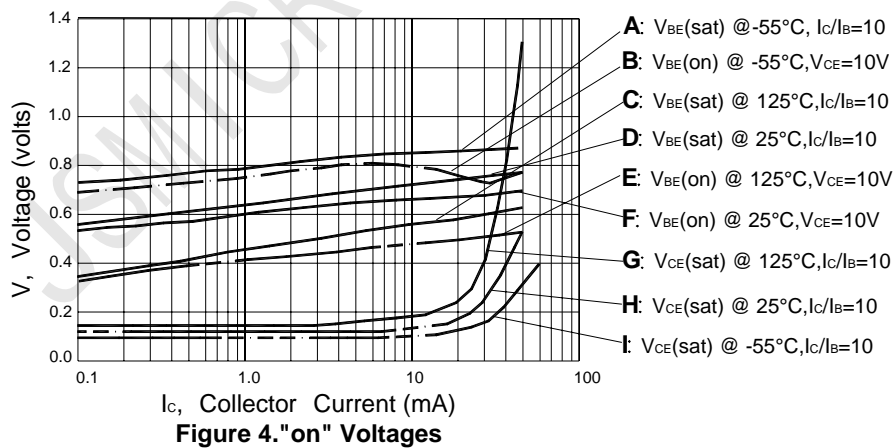
**Figure 1. DC Current Gain**



**Figure 2. Capacitance**



**Figure 3. Current-Gain-Bandwidth**



**Figure 4. "on" Voltages**