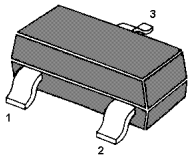
MMBTA42W

NPN Silicon High Voltage Transistors

for high voltage switching and amplifier applications.



1. Base 2. Emitter 3. Collector
SOT-323 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	300	V
Collector Emitter Voltage	V_{CEO}	300	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	500	mA
Power Dissipation	P_{tot}	200	mW
Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

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

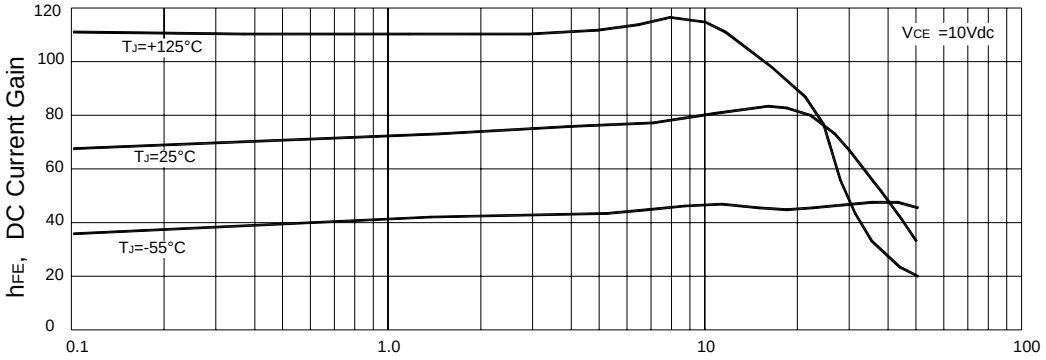


Figure 1. DC Current Gain

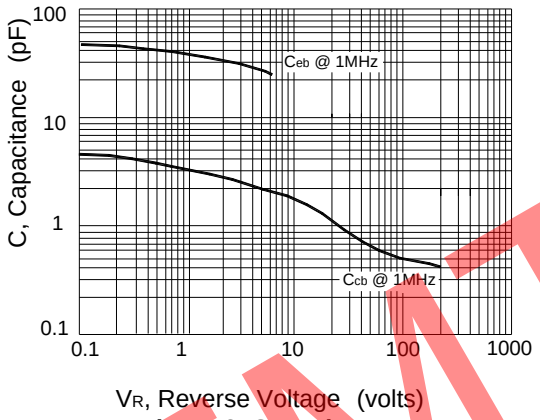


Figure 2. Capacitance

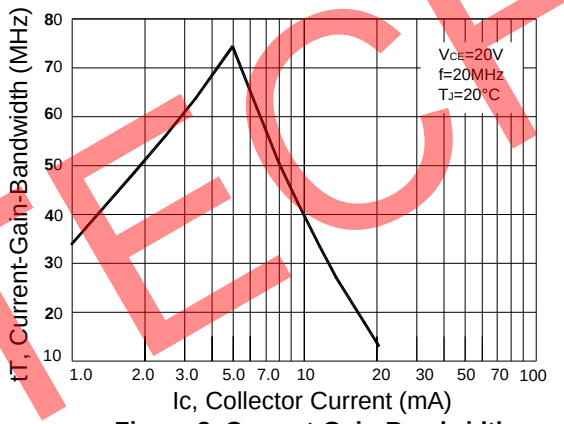


Figure 3. Current-Gain-Bandwidth

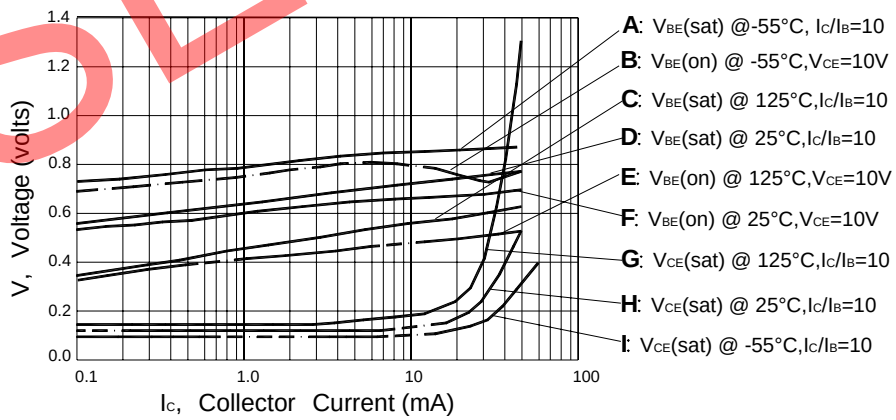


Figure 4."on" Voltages