

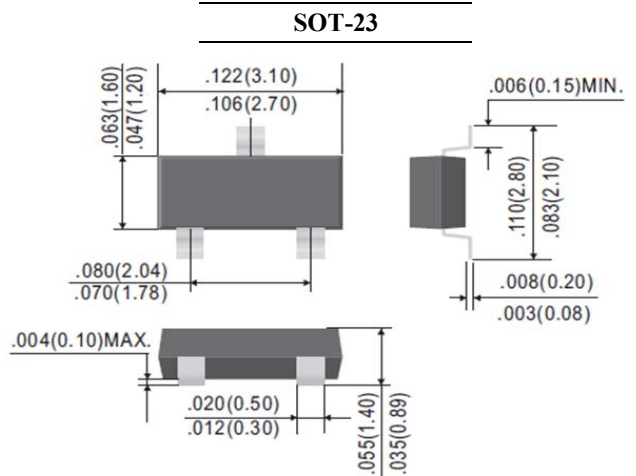
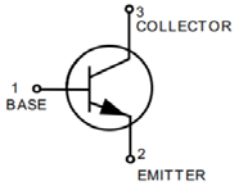


# MMBTA42H / MMBTA43H

## NPN TRANSISTORS

### FEATURES

· Suffix "H" indicates Halogen-free parts, ex. MMBTA42H



**Dimensions in inches and (millimeter)**

### Maximum Ratings ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	300	V
Collector Emitter Voltage	$V_{CEO}$	200	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	500	mA
Power Dissipation	$P_{tot}$	350	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$



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### Electrical Characteristics ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

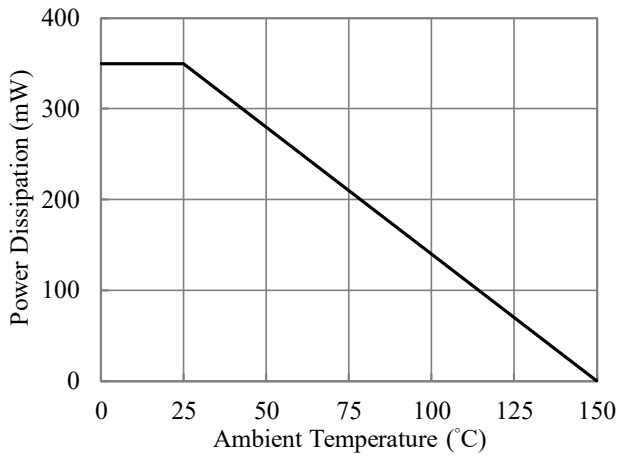
Parameter	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	$V_{CE}=10\text{V}, I_C=1\text{mA}$	$h_{FE}$	25	-	-
	$V_{CE}=10\text{V}, I_C=10\text{mA}$		80	200	
	$V_{CE}=10\text{V}, I_C=30\text{mA}$		40	-	
Collector Base Cutoff Current	MMBTA42H $V_{CB}=200\text{V}$	$I_{CBO}$	-	100	nA
	MMBTA43H $V_{CB}=160\text{V}$		-	100	
Emitter Base Cutoff Current	MMBTA42H $V_{EB}=6\text{V}$	$I_{EBO}$	-	100	nA
	MMBTA43H $V_{EB}=4\text{V}$		-	100	
Collector Base Breakdown Voltage	MMBTA42H $I_C=100\mu\text{A}$	$V_{(BR)CBO}$	300	-	V
	MMBTA43H		200	-	
Collector Emitter Breakdown Voltage	MMBTA42H $I_C=1\text{mA}$	$V_{(BR)CEO}$	300	-	V
	MMBTA43H		200	-	
Emitter Base Breakdown Voltage	$I_E=100\mu\text{A}$	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage	$I_C=20\text{mA}, I_B=2\text{mA}$	$V_{CE(sat)}$	-	0.50	V
Base Emitter Saturation Voltage	$I_C=20\text{mA}, I_B=2\text{mA}$	$V_{BE(sat)}$	-	0.90	V
Gain Bandwidth Product	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	$f_T$	50	-	MHz
Collector Capacitance	MMBTA42H $V_{CB}=20\text{V}, f=1\text{MHz}$	C	-	3	pF
			-	4	



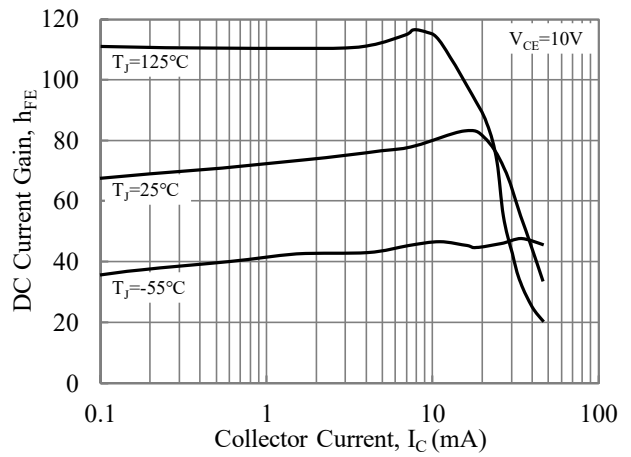
# MMBTA42H / MMBTA43H

## NPN TRANSISTORS

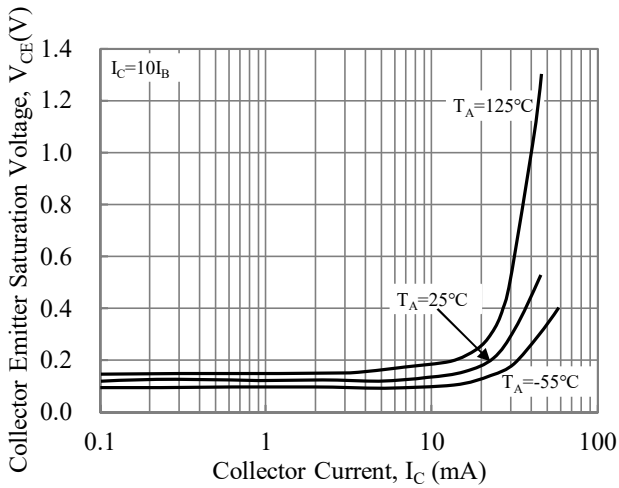
### RATINGS AND CHARACTERISTIC CURVES



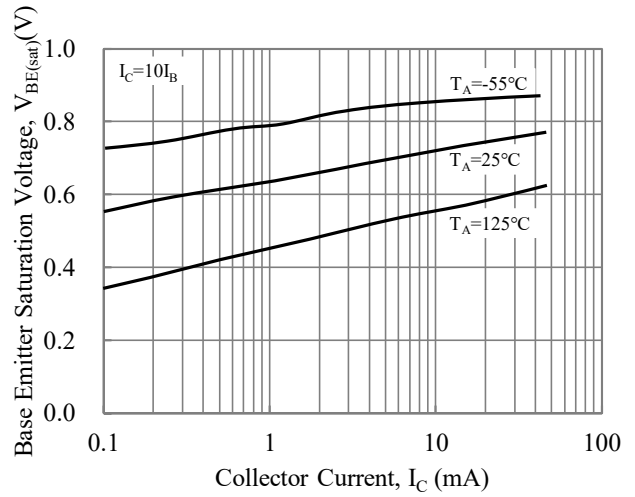
**Fig. 1-Power Derating Curves**



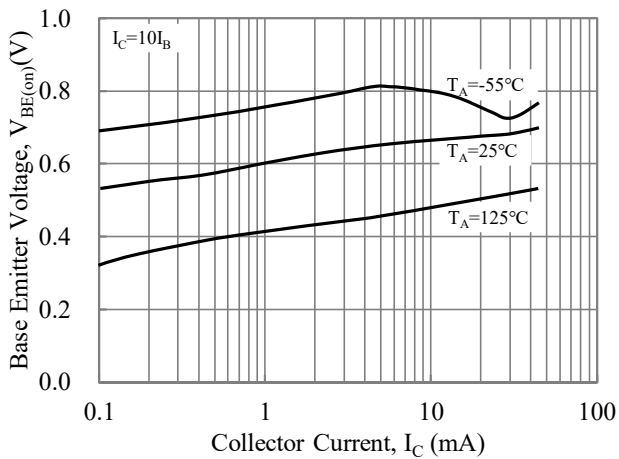
**Fig. 2-Current Gain vs Collector Current**



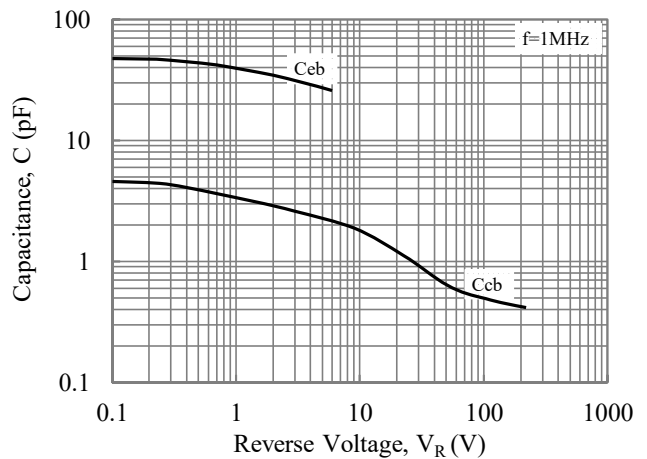
**Fig. 3-Collector Emitter Saturation Voltage vs. Collector Current**



**Fig. 4-Base Emitter Saturation Voltage vs. Collector Current**



**Fig. 5-Base Emitter Voltage vs. Collector Current**

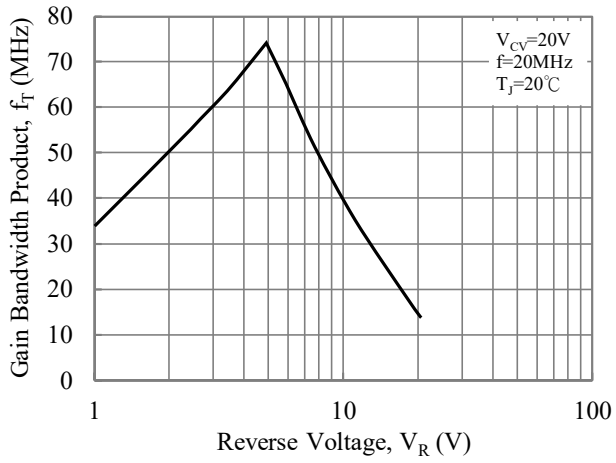


**Fig. 6-Capacitance**



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**Fig. 7-Gain Bandwidth Product**