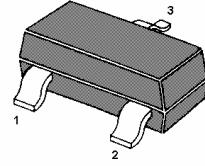


# MMBTA92 / MMBTA93

## PNP Silicon High Voltage Transistors

for high voltage switching and amplifier applications.

As complementary types the NPN transistors MMBTA42 and MMBTA43 are recommended.



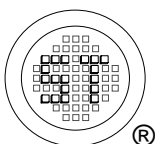
1.BASE 2.EMITTER 3.COLLECTOR  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit	
Collector Base Voltage	MMBTA92 MMBTA93	$-V_{CBO}$	300 200	V
Collector Emitter Voltage	MMBTA92 MMBTA93	$-V_{CEO}$	300 200	V
Emitter Base Voltage		$-V_{EBO}$	5	V
Collector Current		$-I_C$	500	mA
Total Device Dissipation		$P_{tot}$	200	mW
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_S$	- 55 to + 150	$^\circ\text{C}$

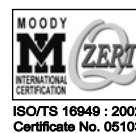
### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain					
at $-V_{CE} = 10\text{ V}$ , $-I_C = 1\text{ mA}$	$h_{FE}$	25	-	-	
at $-V_{CE} = 10\text{ V}$ , $-I_C = 10\text{ mA}$	$h_{FE}$	40	-	-	
at $-V_{CE} = 10\text{ V}$ , $-I_C = 30\text{ mA}$	$h_{FE}$	25	-	-	
Collector Cutoff Current					
at $-V_{CB} = 200\text{ V}$	MMBTA92	$-I_{CBO}$	-	0.25	$\mu\text{A}$
at $-V_{CB} = 160\text{ V}$	MMBTA93	$-I_{CBO}$	-	0.25	$\mu\text{A}$
Emitter Cutoff Current					
at $-V_{EB} = 3\text{ V}$		$-I_{EBO}$	-	0.1	$\mu\text{A}$
Collector Base Breakdown Voltage					
at $-I_C = 100\text{ }\mu\text{A}$	MMBTA92	$-V_{(BR)CBO}$	300	-	V
	MMBTA93	$-V_{(BR)CBO}$	200	-	V
Collector Emitter Breakdown Voltage					
at $-I_C = 1\text{ mA}$	MMBTA92	$-V_{(BR)CEO}$	300	-	V
	MMBTA93	$-V_{(BR)CEO}$	200	-	V
Emitter Base Breakdown Voltage					
at $-I_E = 100\text{ }\mu\text{A}$		$-V_{(BR)EBO}$	5	-	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
Current Gain Bandwidth Product					
at $-V_{CE} = 20\text{ V}$ , $-I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$		$f_T$	50	-	MHz
Collector Base Capacitance					
at $-V_{CB} = 20\text{ V}$ , $f = 1\text{ MHz}$	MMBTA92	$C_{cb}$	-	6	pF
	MMBTA93	$C_{cb}$	-	8	pF



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



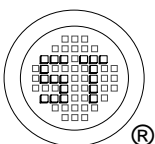
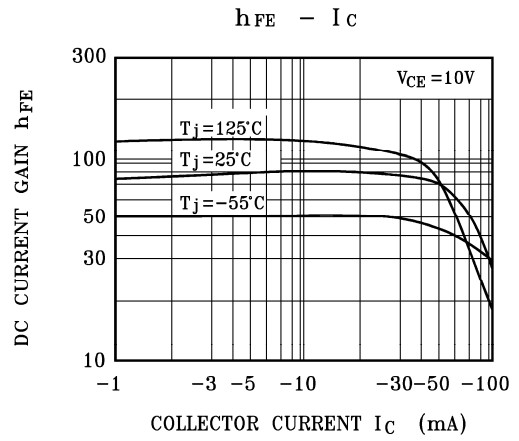
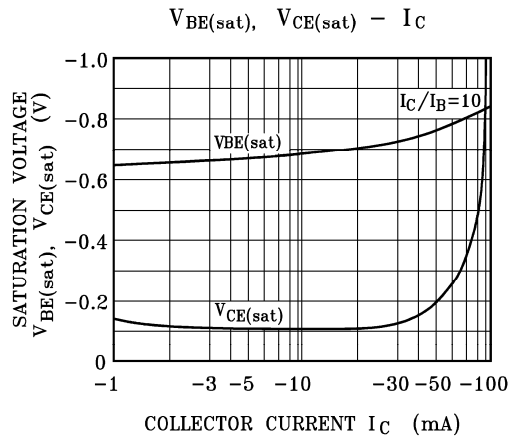
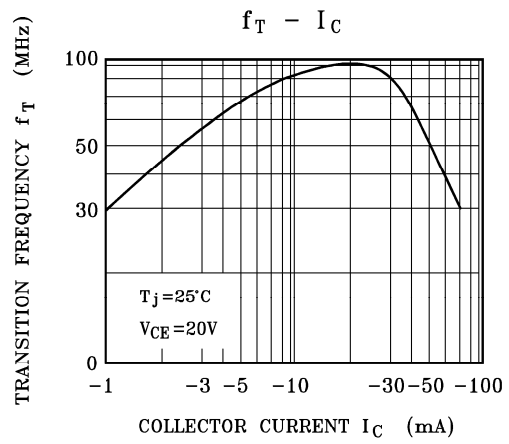
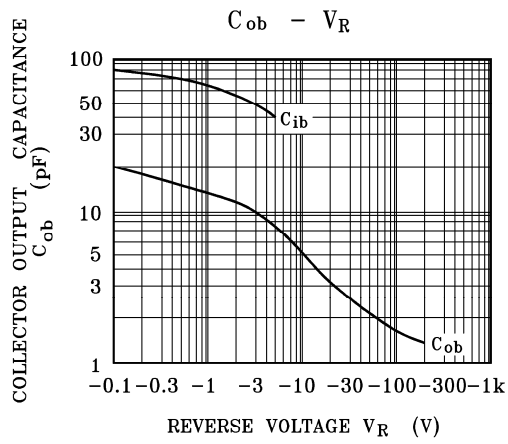
ISO/TS 16949 : 2002  
Certificate No. 05103

ISO 14001:2004  
Certificate No. 7116

ISO 9001:2000  
Certificate No. 0506098

Dated :13/03/2007

# MMBTA92 / MMBTA93



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