



# FUKUCOM COMPANY LTD.

## 福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

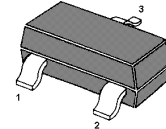
TEL: 852-2790 0314 FAX: 852-2790 0206

### MMBTA42 / MMBTA43

#### NPN Silicon High Voltage Transistors

for high voltage switching and amplifier applications.

As complementary types the PNP transistors  
MMBTA92 and MMBTA93 are recommended.



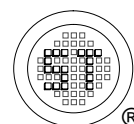
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit	
Collector Base Voltage	MMBTA42 MMBTA43	$V_{CBO}$	300 200	V
Collector Emitter Voltage	MMBTA42 MMBTA43	$V_{CEO}$	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		$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction and Storage Temperature Range		$T_j, T_{stg}$	- 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 $V_{CE} = 10\text{ V}, I_C = 30\text{ mA}$	$h_{FE}$	40	-	-
Collector Base Cutoff Current				
at $V_{CB} = 200\text{ V}$	MMBTA42 $I_{CBO}$	-	0.1	$\mu\text{A}$
at $V_{CB} = 160\text{ V}$	MMBTA43 $I_{CBO}$	-	0.1	$\mu\text{A}$
Emitter Base Cutoff Current				
at $V_{EB} = 6\text{ V}$	MMBTA42 $I_{EBO}$	-	0.1	$\mu\text{A}$
at $V_{EB} = 4\text{ V}$	MMBTA43 $I_{EBO}$	-	0.1	$\mu\text{A}$
Collector Base Breakdown Voltage				
at $I_C = 100\text{ }\mu\text{A}$	MMBTA42 $V_{(BR)CBO}$	300	-	V
	MMBTA43 $V_{(BR)CBO}$	200	-	V
Collector Emitter Breakdown Voltage				
at $I_C = 1\text{ mA}$	MMBTA42 $V_{(BR)CEO}$	300	-	V
	MMBTA43 $V_{(BR)CEO}$	200	-	V
Emitter Base Breakdown Voltage				
at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	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 $C_{ob}$	-	3	pF
	MMBTA43 $C_{ob}$	-	4	pF



Dated : 04/05/2009



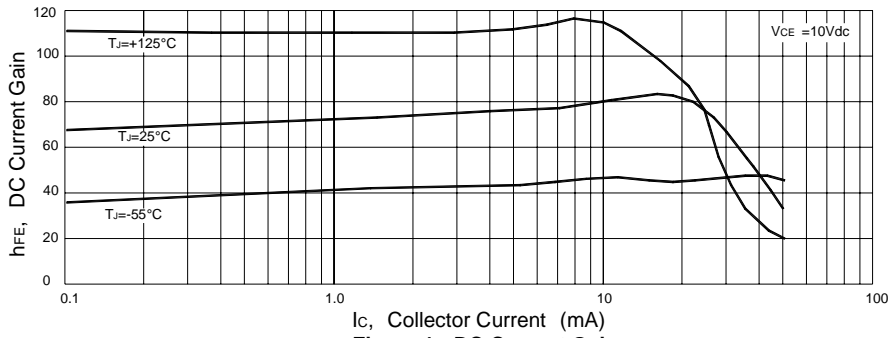
**FUKUCOM COMPANY LTD.**

**福 靈 有 限 公 司**

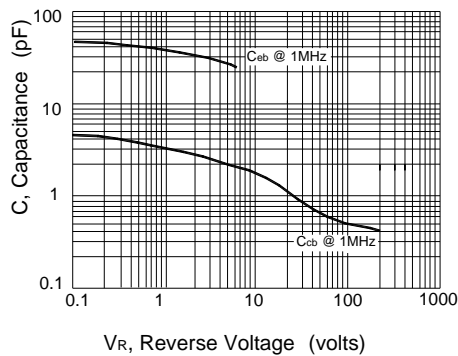
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

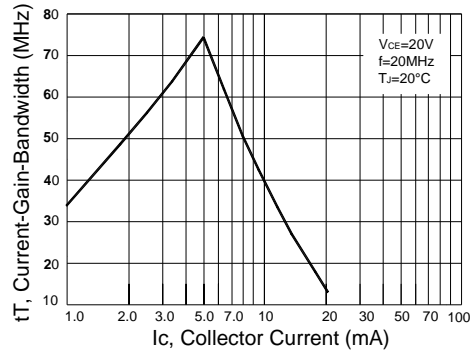
**MMBTA42 / MMBTA43**



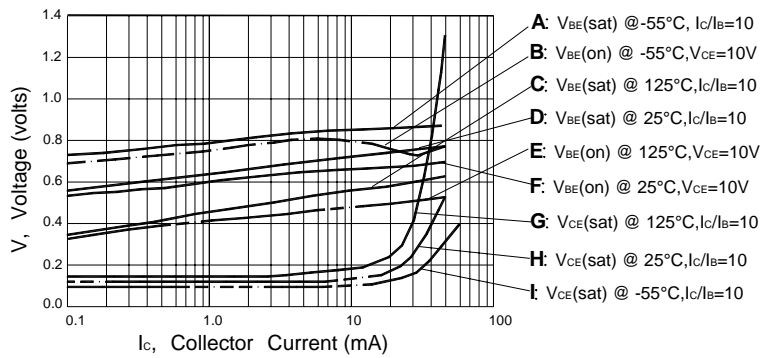
**Figure 1. DC Current Gain**



**Figure 2. Capacitance**



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



**Figure 4. "on" Voltages**

