

# FMMTA42

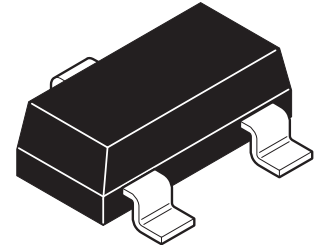
## SOT23 NPN Silicon planar high voltage transistor

### Device marking

FMMTA42 - 3E

### Complementary types

FMMTA92



### Absolute maximum ratings

Parameter	Symbol	FMMTA42	Unit
Collector-base voltage	$V_{CBO}$	300	V
Collector-emitter voltage	$V_{CEO}$	300	V
Emitter-base voltage	$V_{EBO}$	5	V
Continuous collector current	$I_C$	200	mA
Power dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	330	mW
Operating and storage temperature range	$T_j:T_{stg}$	-55 to +150	$^{\circ}C$

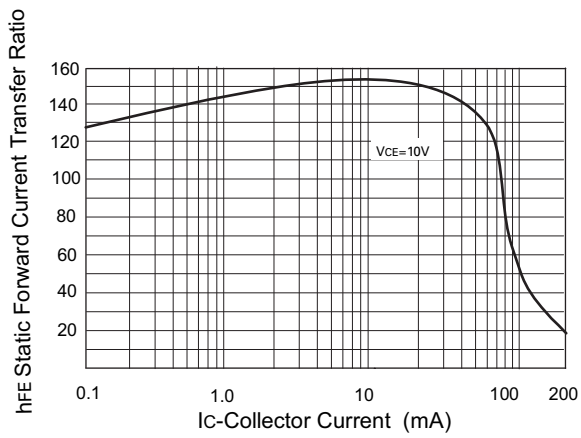
### Electrical characteristics (at $T_{amb} = 25^{\circ}C$ ).

Parameter	Symbol	Min.	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	300		V	$I_C=100\mu A, I_E=0$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	300		V	$I_C=1mA, I_B=0^{(*)}$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	6		V	$I_E=100\mu A, I_C=0$
Collector cut-off current	$I_{CBO}$		0.1	$\mu A$	$V_{CB}=200V, I_E=0$ $V_{CB}=160V, I_E=0$
Emitter cut-off current	$I_{EBO}$		0.1	$\mu A$	$V_{EB}=6V, I_C=0$ $V_{EB}=4V, I_C=0$
Collector-emitter saturation voltage	$V_{CE(sat)}$		0.5	V	$I_C=20mA, I_B=2mA^{(*)}$
Base-emitter saturation voltage	$V_{BE(sat)}$		0.9	V	$I_C=20mA, I_B=2mA^{(*)}$
Static forward current transfer ratio	$h_{FE}$	25 40 40			$I_C=1mA, V_{CE}=10V^{(*)}$ $I_C=10mA, V_{CE}=10V^{(*)}$ $I_C=30mA, V_{CE}=10V^{(*)}$
Transition frequency	$f_T$	50		MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output capacitance	$C_{obo}$		6	pF	$V_{CB}=20V, f=1MHz$

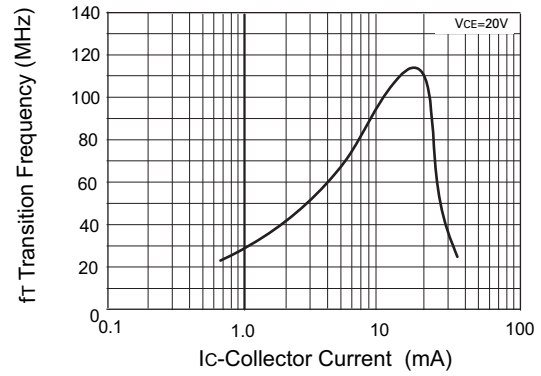
#### NOTES:

(\*) Measured under pulsed conditions. Pulse width  $\leq 300\mu s$ ; duty cycle  $\leq 2\%$ .

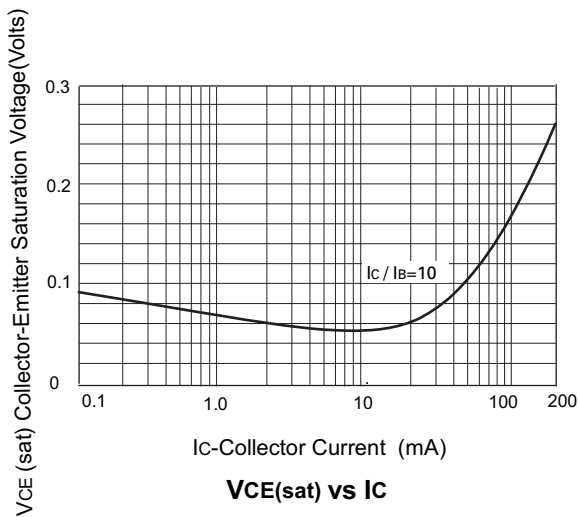
## Typical characteristics



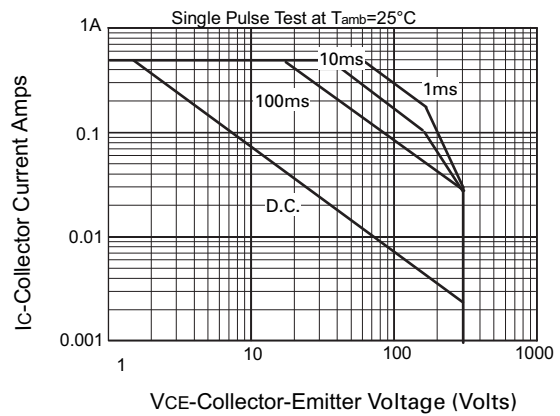
**hFE vs IC**



**ft vs IC**



**VCE(sat) vs IC**



**Safe operating area**

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