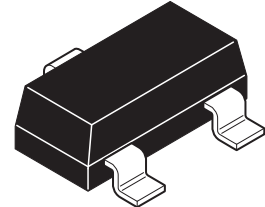


# FM596

## SOT 23 PNP silicon planar high voltage transistor

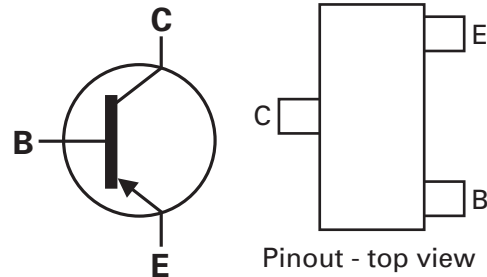
### Ordering information

Device	Reel size (inches)	Tape width (mm)	Quantity per reel
FM596TA	7	8	3,000



### Device marking

596



### Absolute maximum ratings

Parameter	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	-220	V
Collector-emitter voltage	$V_{CEO}$	-200	V
Emitter-base voltage	$V_{EBO}$	-5	V
Peak pulse current	$I_{CM}$	-1	A
Continuous collector current	$I_C$	-0.3	A
Base current	$I_B$	-200	mA
Power dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	500	mW
Operating and storage temperature range	$T_J; T_{stg}$	-55 to +150	$^{\circ}C$

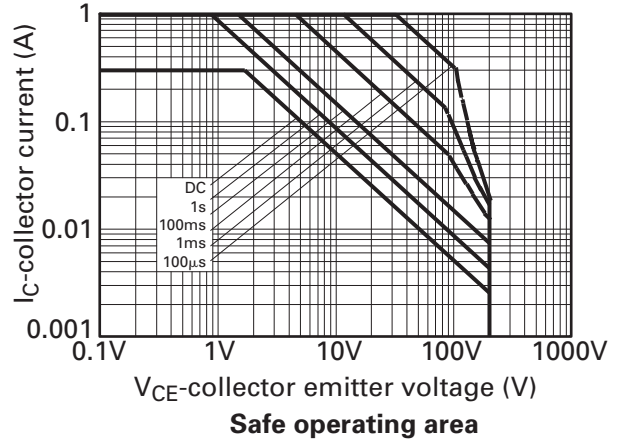
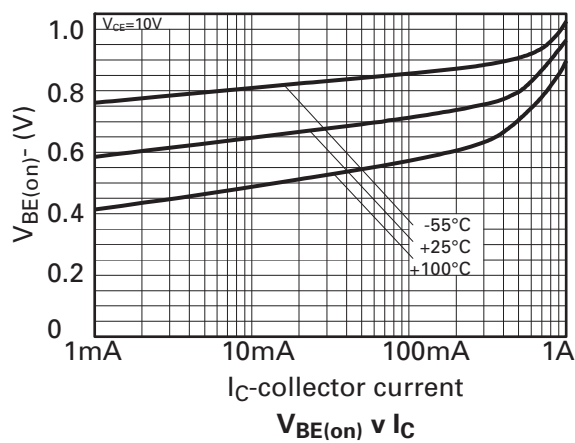
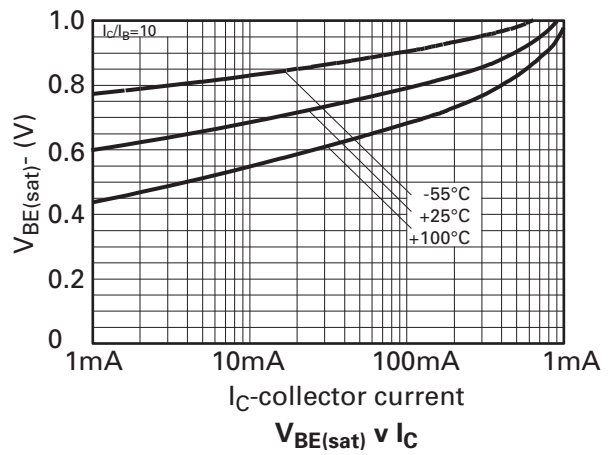
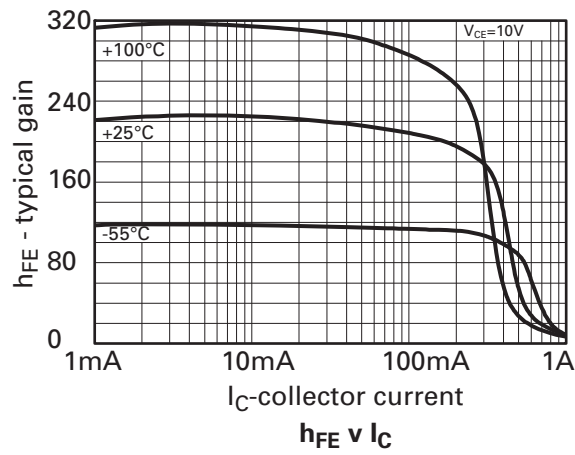
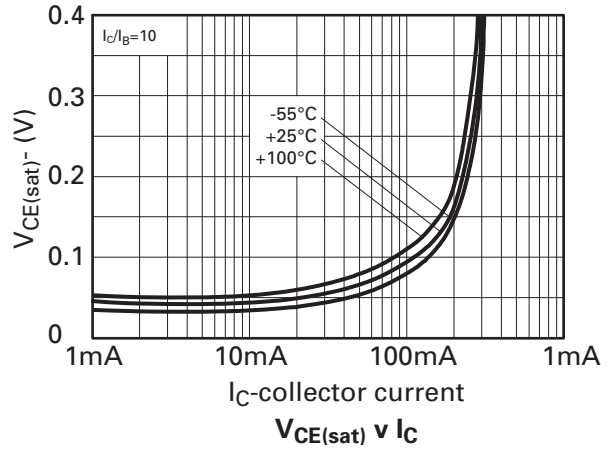
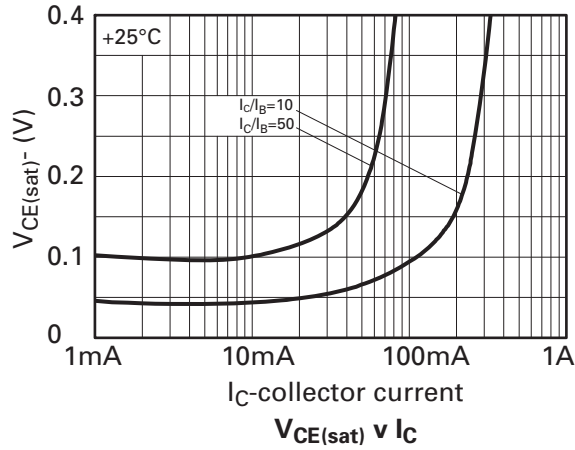
## Electrical characteristics ( $T_{amb} = 25^{\circ}\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	-220			V	$I_C = -100\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	-200			V	$I_C = -10\text{mA}^{(*)}$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}$
Collector cut-off current	$I_{CBO}$			-100	nA	$V_{CB} = -200\text{V}$
Emitter cut-off current	$I_{EBO}$			-100	nA	$V_{EB} = -4\text{V}$
Collector-emitter cut-off current	$I_{CES}$			-100	nA	$V_{CES} = -200\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$			-0.2 -0.35	V V	$I_C = -100\text{mA}$ , $I_B = -10\text{mA}$ , $I_B = -250\text{mA}$ , $I_B = -25\text{mA}^{(*)}$
Base-emitter saturation voltage	$V_{BE(sat)}$			-1.0	V	$I_C = -250\text{mA}$ , $I_B = -25\text{mA}^{(*)}$
Base-emitter turn-on voltage	$V_{BE(on)}$			-0.9	V	$I_C = -250\text{mA}$ , $V_{CE} = -10\text{V}^{(*)}$
Static forward current transfer ratio	$h_{FE}$	100 100 85 35		300		$I_C = -1\text{mA}$ , $V_{CE} = -10\text{V}$ $I_C = -100\text{mA}$ , $V_{CE} = -10\text{V}^{(*)}$ $I_C = -250\text{mA}$ , $V_{CE} = -10\text{V}^{(*)}$ $I_C = -400\text{mA}$ , $V_{CE} = -10\text{V}^{(*)}$
Transition frequency	$f_T$	150			MHz	$I_C = -50\text{mA}$ , $V_{CE} = -10\text{V}$ , $f = 100\text{MHz}$
Output capacitance	$C_{obo}$			10	pF	$V_{CB} = -10\text{V}$ , $f = 1\text{MHz}$
Switching times	td tr ts tf		22 19 472 70		ns	$I_C = -200\text{mA}$ , $V_{CC} = -80\text{V}$ $I_{b1} = I_{b2} = -20\text{mA}$
Switching times	td tr ts tf		44 31 665 76		ns	$I_C = -100\text{mA}$ , $V_{CC} = -80\text{V}$ $I_{b1} = I_{b2} = -10\text{mA}$

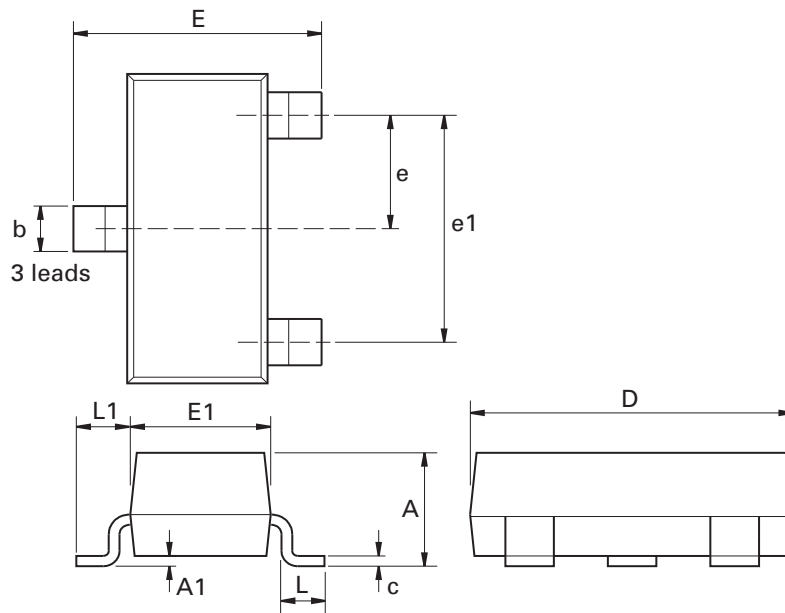
### NOTES:

(\*) Measured under pulsed conditions. Pulse width =  $300\mu\text{s}$ . Duty cycle  $\leq 2\%$ .

## Typical characteristics



## Package outline - SOT23



Dim.	Millimeters		Inches		Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	-	1.12	-	0.044	e1	1.90 NOM		0.075 NOM	
A1	0.01	0.10	0.0004	0.004	E	2.10	2.64	0.083	0.104
b	0.30	0.50	0.012	0.020	E1	1.20	1.40	0.047	0.055
c	0.085	0.20	0.003	0.008	L	0.25	0.60	0.0098	0.0236
D	2.80	3.04	0.110	0.120	L1	0.45	0.62	0.018	0.024
e	0.95 NOM		0.037 NOM		-	-	-	-	-

**Note:** Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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or

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