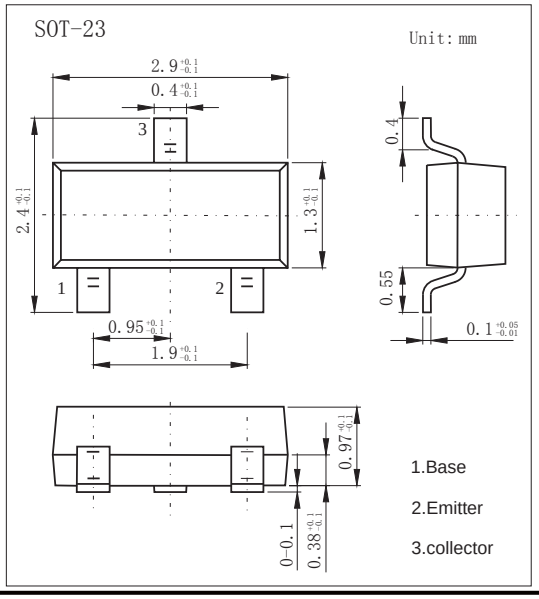
HFZT

FMMT493

SOT-23 Plastic-Encapsulate Transistors

Features

- Collector Current Capability I_C=1A
- Collector Emitter Voltage V_{CEO}=100V
- Complementary to FMMT593
- NPN Transistors



MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	120	V
Collector - Emitter Voltage	V_{CEO}	100	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	1	A
Collector Current - Pulse	I_{CP}	2	
Base Current	I_B	0.2	
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
FMMT493	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	120			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 10 mA, I_B= 0	100			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 100 V , I_E= 0			100	nA
Collector- emitter cut-off current	I_{CES}	V_{CE}= 100 V , I_E= 0			100	
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B=50mA			0.3	V
		I_C=1 A, I_B=100mA			0.6	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=1 A, I_B=100mA			1.15	
Base - emitter turn-on voltage	$V_{BE(on)}$	V_{CE}= 10V, I_C= 1 A			1	
DC current gain (Note.1)	h_{FE}	V_{CE}= 10V, I_C= 1mA	100			
		V_{CE}= 10V, I_C= 250mA	100		300	
		V_{CE}= 10V, I_C= 500mA	60			
		V_{CE}= 10V, I_C= 1 A	20			
Collector output capacitance	C_{ob}	V_{CB}= 10V, f=10MHz			10	pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 50mA,f=100MHz	150			MHz

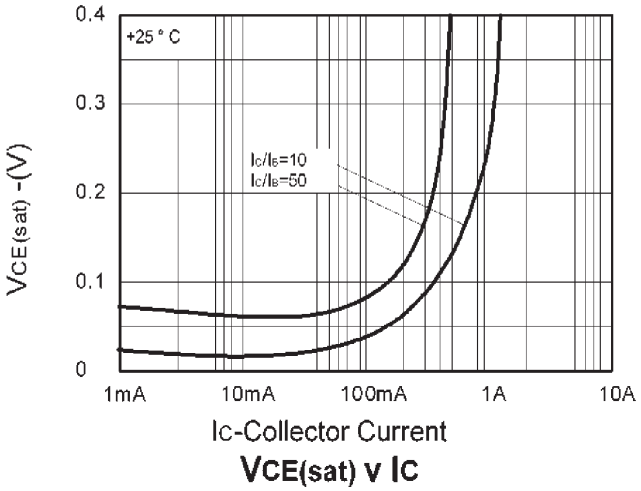
Note.1: Pulse width=300us. Duty cycle ≤ 2%

■ Marking

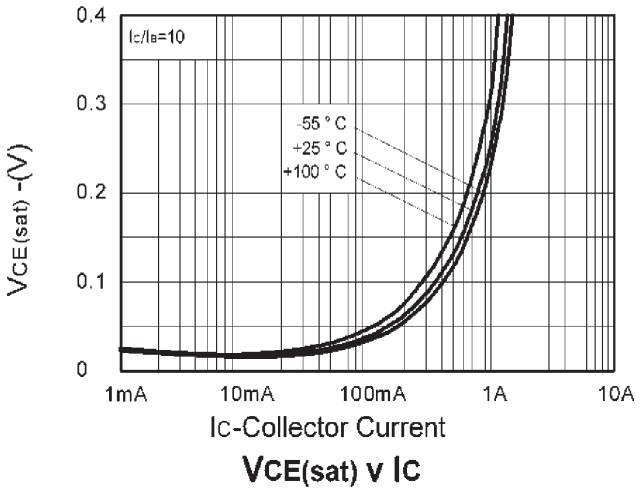
Marking	493

RATINGS AND CHARACTERISTIC CURVES

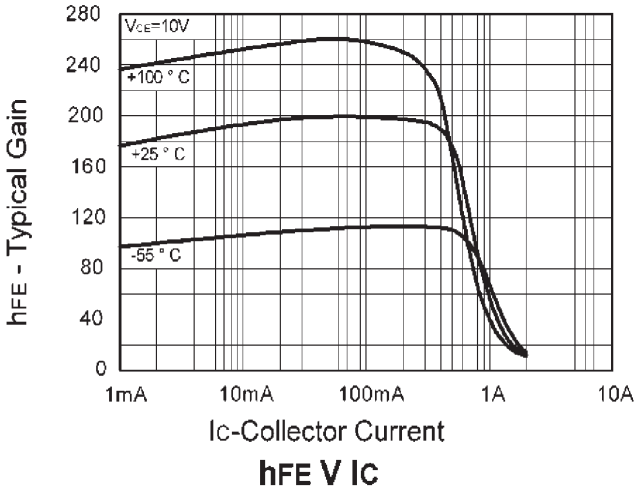
■ Typical Characterisitics



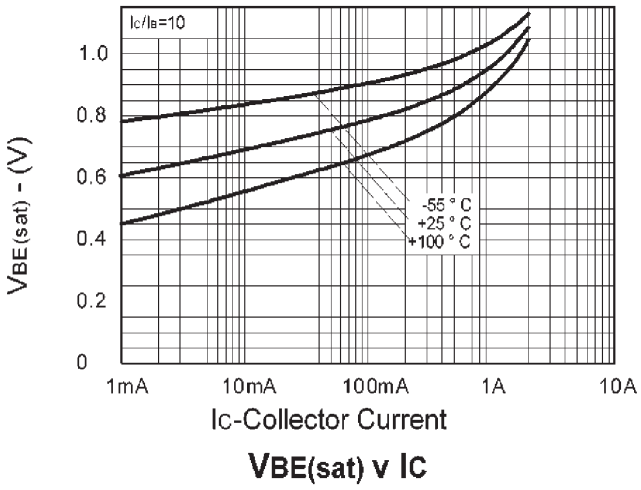
VCE(sat) v IC



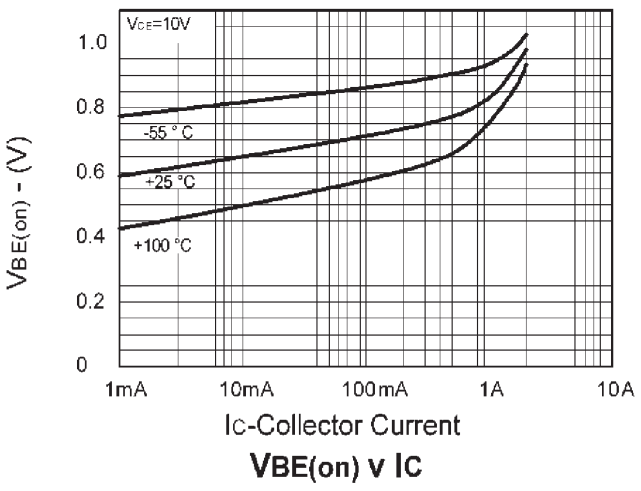
VCE(sat) v IC



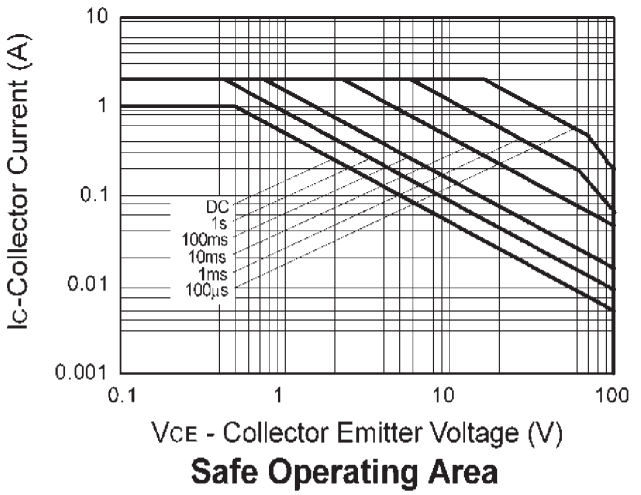
hFE V IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area