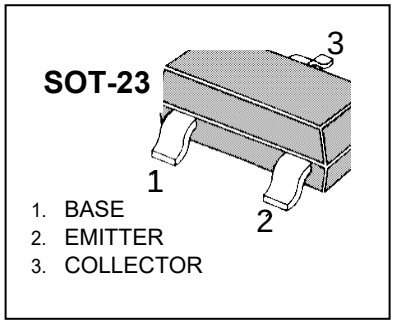
SOT-23 Plastic-Encapsulate Transistors

FMMT491 TRANSISTOR (NPN)



FEATURES

Low equivalent on-resistance

Marking :491

MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	1000	mA
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C=100μA,I_E=0	80			V
Collector-emitter breakdown voltage	V_{CEO} [1]	I_C=10mA,I_B=0	60			V
Emitter-base breakdown voltage	V_{EBO}	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V,I_C=1mA	100			
	$h_{FE(2)}$ [1]	V_{CE}=5V,I_C=500mA	100		300	
	$h_{FE(3)}$ [1]	V_{CE}=5V,I_C=1A	80			
	$h_{FE(4)}$ [1]	V_{CE}=5V,I_C=2A	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}$ [1]	I_C=500mA,I_B=50mA			0.25	V
	$V_{CE(sat)2}$ [1]	I_C=1A,I_B=100mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$ [1]	I_C=1A,I_B=100mA			1.1	V
Base-emitter voltage	V_{BE} [1]	V_{CE}=5V,I_C=1A			1	V
Transition frequency	f_T	V_{CE}=10V,I_C=50mA,,f=100MHz	150			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,f=1MHz			10	pF

1Measured under pulsed conditions, Pulse width=300μs, Duty cycle≤2%.

Typical Characteristics

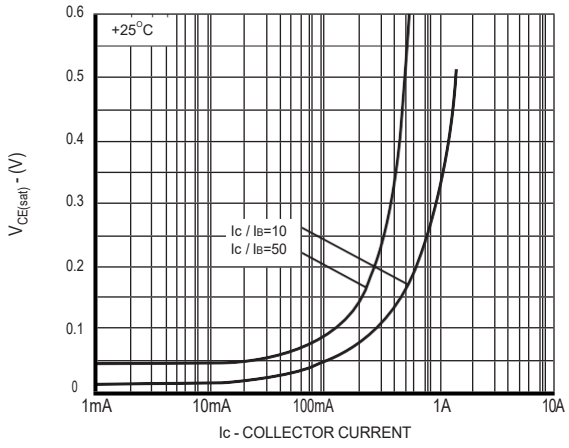


Figure1 $V_{CE(sat)}$ vs I_C

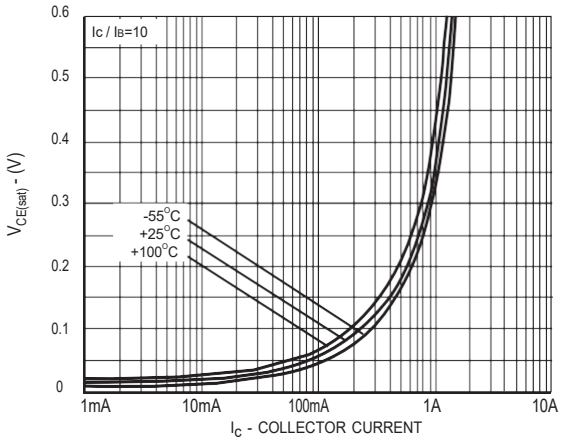


Figure2 $V_{CE(sat)}$ vs I_C

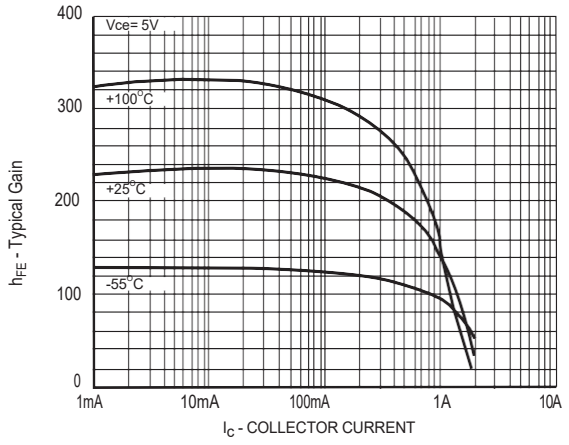


Figure3 h_{FE} vs I_C

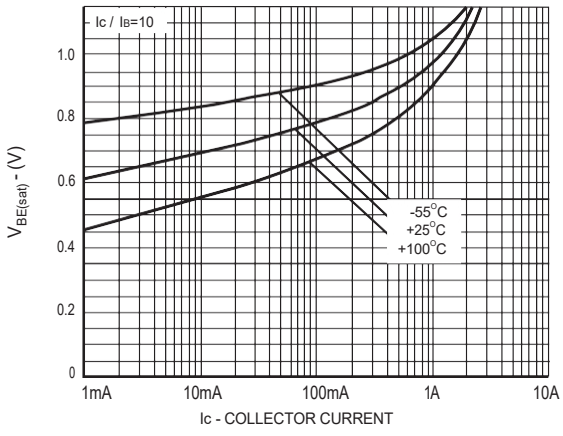


Figure4 $V_{BE(sat)}$ vs I_C

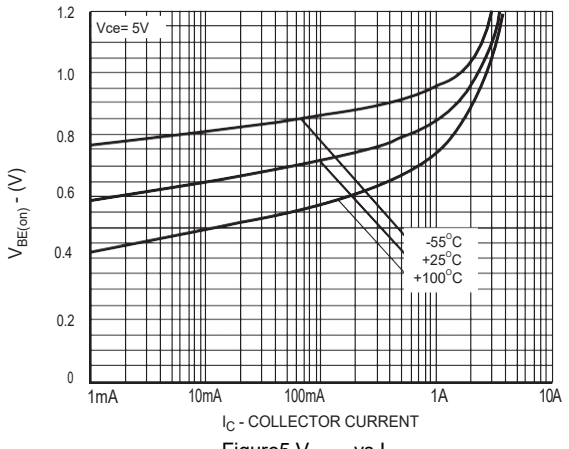


Figure5 $V_{BE(on)}$ vs I_C

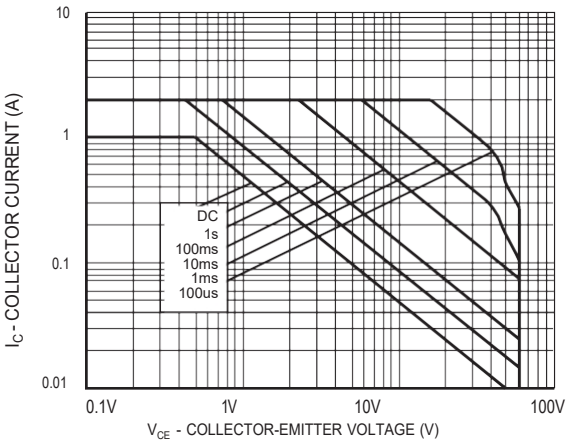
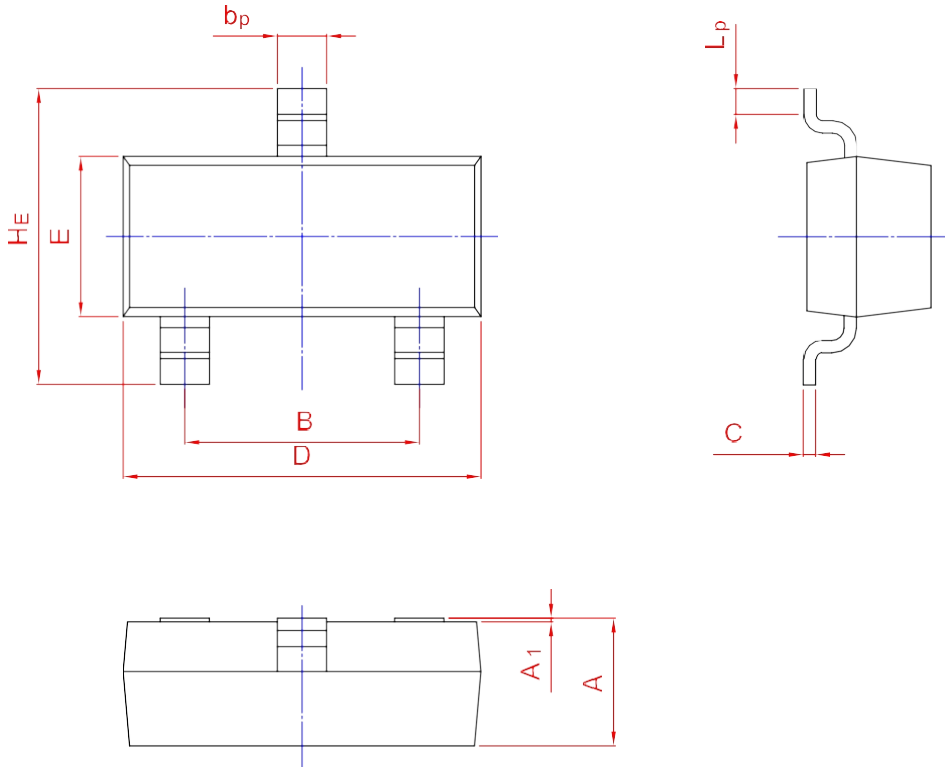


Figure6 Safe Operating Area

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20