

FMMT491 TRANSISTOR(NPN) SOT-23 Plastic-Encapsulate Transistors

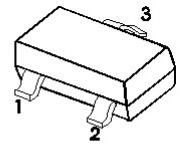
Features

- Low equivalent on-resistance
- Power Dissipation of 250mW
- High Stability and High Reliability

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

Marking: 491

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	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	1.0	A
Peak Pulse Current	I_{CM}	2.0	A
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	500	°C/W

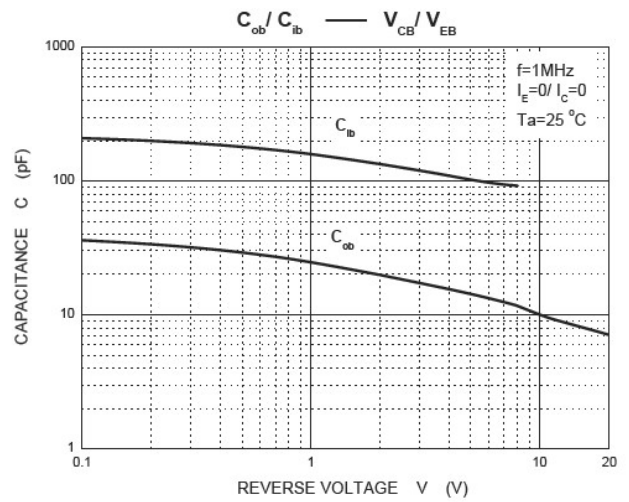
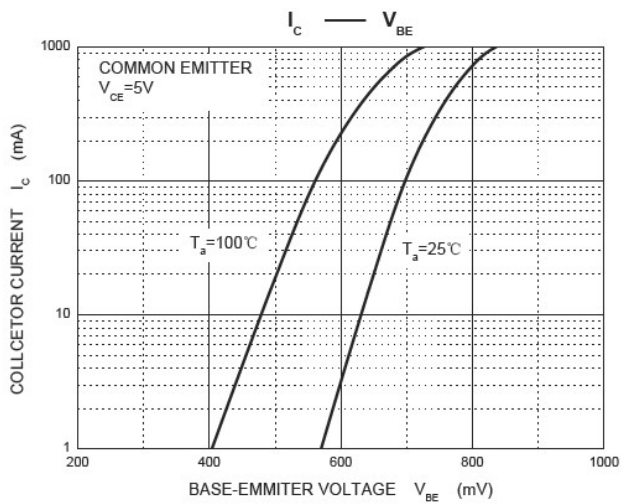
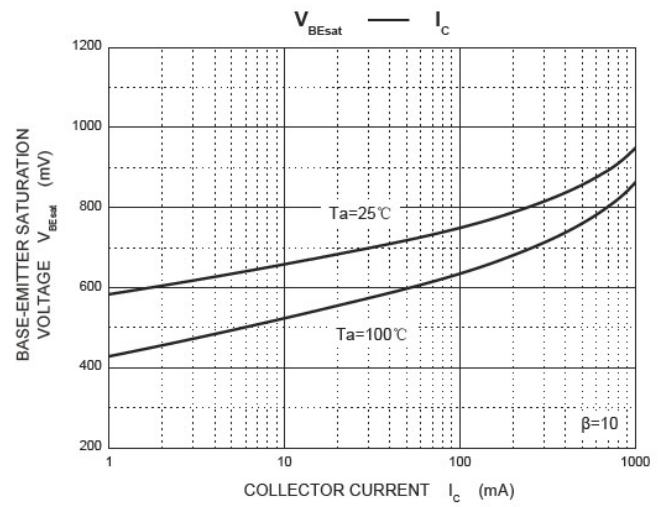
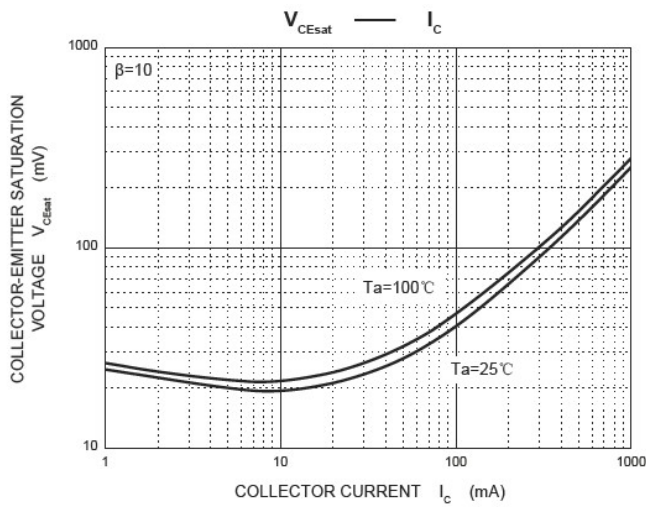
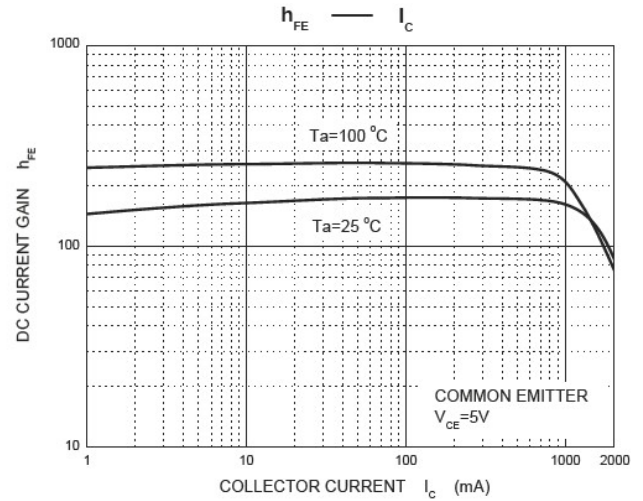
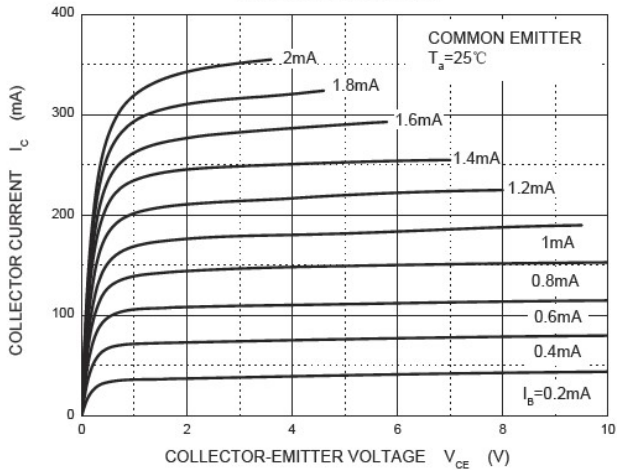
Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

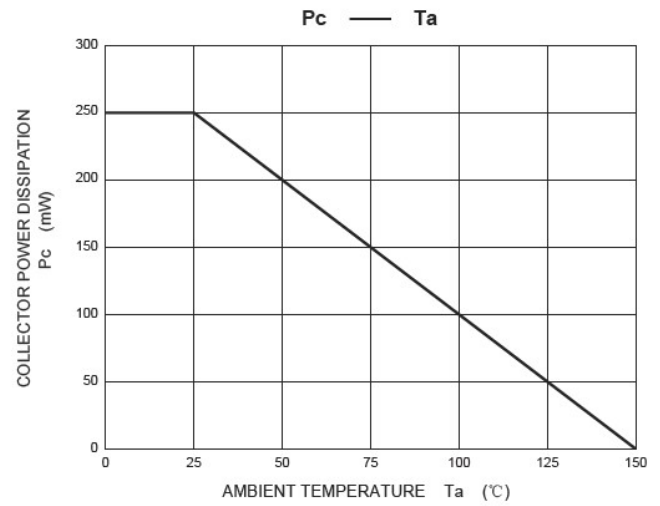
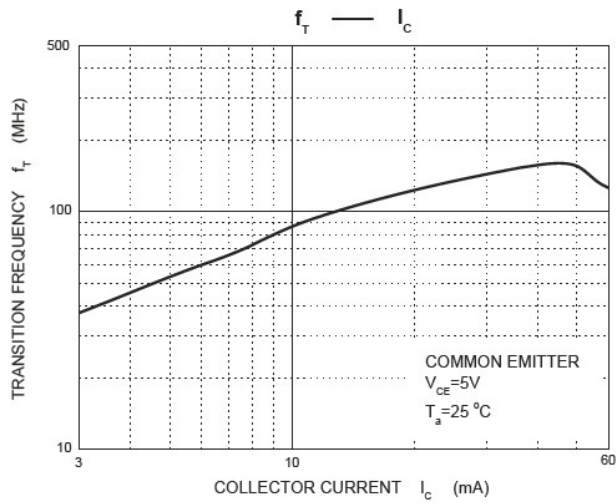
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	80		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10mA, I_B=0$	60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$		100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$		100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1mA$	100		
	$h_{FE(2)}^*$	$V_{CE}=5V, I_C=500mA$	100	300	
	$h_{FE(3)}^*$	$V_{CE}=5V, I_C=1000mA$	80		
	$h_{FE(4)}^*$	$V_{CE}=5V, I_C=2000mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=500mA, I_B=50mA$		0.25	V
		$I_C=1000mA, I_B=100mA$		0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=1000mA, I_B=100mA$		1.10	V
Base -emitter voltage	V_{BE}^*	$V_{CE}=5V, I_C=1000mA$		1.00	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

* Measured under pulsed conditions, Pulse width=300us, Duty cycle ≤ 2%

Typical characteristics

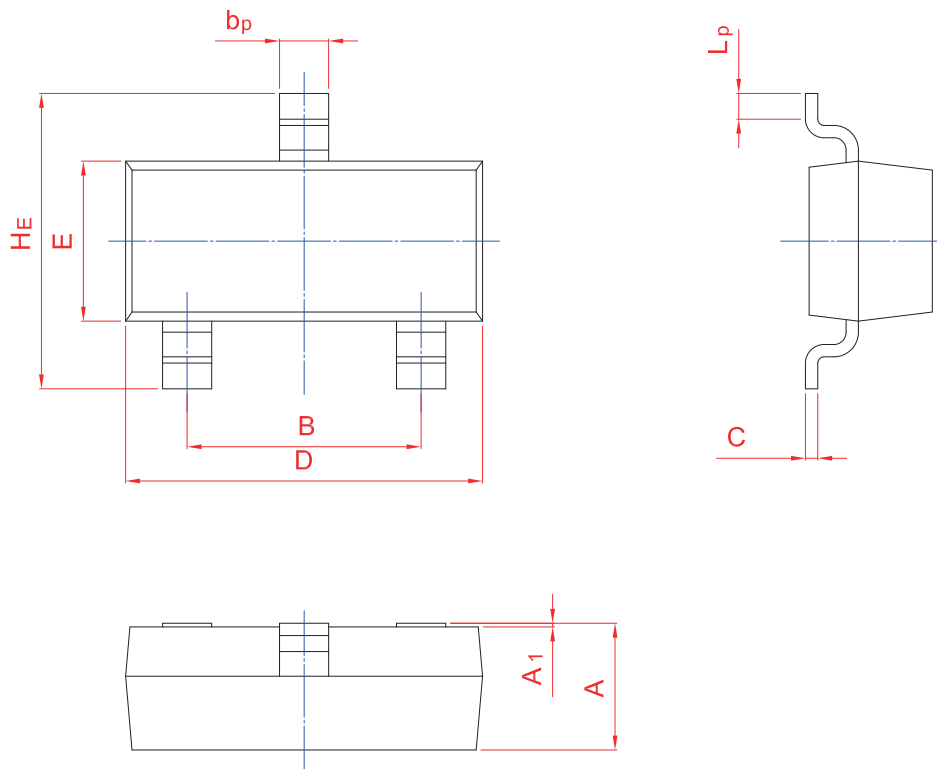
Static Characteristic





Package Outline (Dimensions in mm)

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40 0.89	2.04 1.78	0.51 0.30	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20