

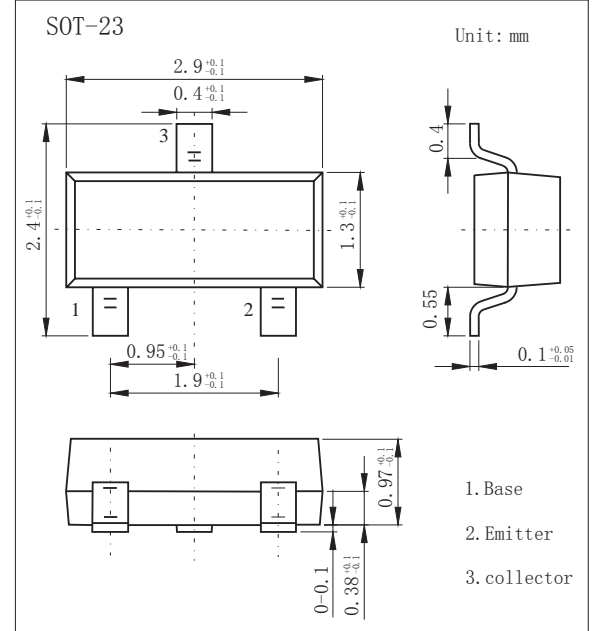
SOT-23 Plastic-Encapsulate Transistors

Features

- $V_{CE(sat)}$ maximum specification improvement
- Reverse blocking specification improvement
- NPN Transistors

MECHANICAL DATA

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



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	80	V
Collector - Emitter Voltage	V_{CEO}	60	
Emitter - Base Voltage	V_{EBO}	7	
Collector Current - Continuous	I_C	1	A
Collector Current - Pulse	I_{CP}	2	
Power Dissipation	P_D	500	mW
Linear derating factor		4	mW/°C
Junction to ambient	$R_{\theta JA}$	250	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
FMMT491	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	80			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 10 mA, I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60 V, I_E = 0$			100	nA
Collector- emitter cut-off current	I_{CES}	$V_{CE} = 60 V, I_E = 0$			100	
Emitter cut-off current	I_{EBO}	$V_{EB} = 5.6 V, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 mA, I_B = 50 mA$ (Note.1)			150	mV
		$I_C = 1 A, I_B = 100 mA$ (Note.1)			250	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 A, I_B = 100 mA$ (Note.1)			1.1	V
Base-emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = 5 V, I_C = 1 A$ (Note.1)			1	
DC current gain	$h_{FE(1)}$	$V_{CE} = 5 V, I_C = 1 mA$	100			
	$h_{FE(2)}$	$V_{CE} = 5 V, I_C = 500 mA$	100		300	
	$h_{FE(3)}$	$V_{CE} = 5 V, I_C = 1 A$	80			
	$h_{FE(4)}$	$V_{CE} = 5 V, I_C = 2 A$	30			
Collector output capacitance	C_{ob}	$V_{CB} = 10 V, f = 1 MHz$			10	pF
Transition frequency	f_T	$V_{CE} = 10 V, I_C = 50 mA, f = 100 MHz$	150			MHz

Note.1: Measured under pulsed conditions. Pulse width $\leq 300 \mu s$; duty cycle $\leq 2\%$.

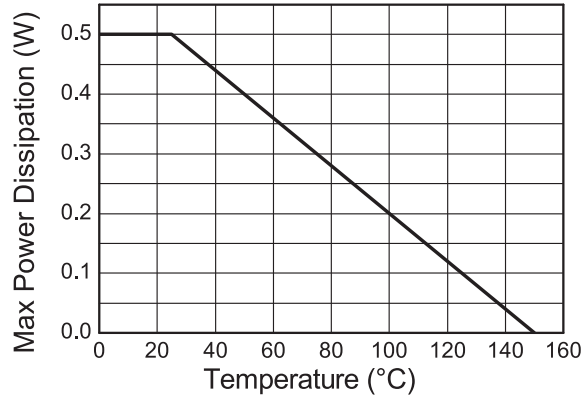
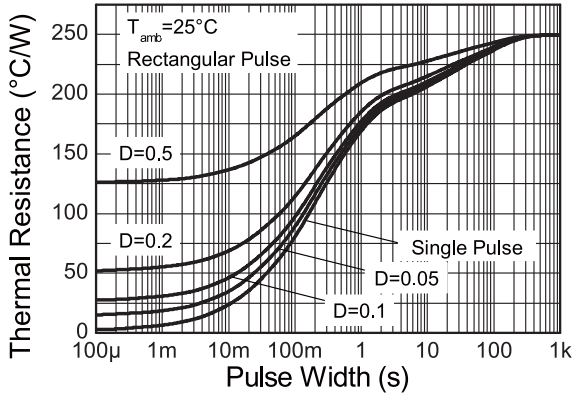
Marking

Marking	491
---------	-----

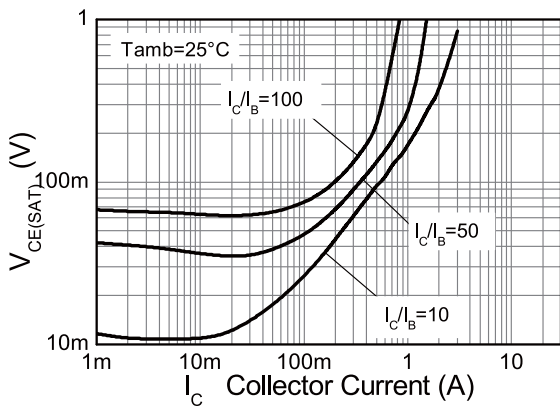


RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics



Transient Thermal Impedance



Derating Curve

