

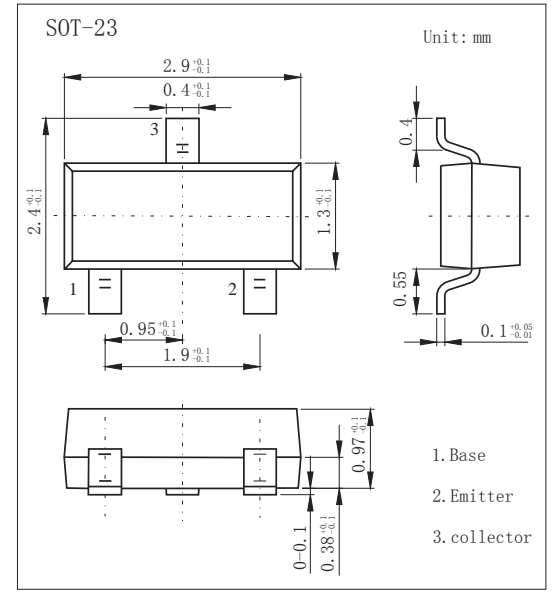
SOT-23 Plastic-Encapsulate Transistors

Features

- Excellent hFE linearity
- Collector Current : $I_C=0.5A$
- 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_{CB0}	40	V
Collector - Emitter Voltage	V_{CE0}	25	V
Emitter - Base Voltage	V_{EB0}	5	V
Collector Current - Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to 150	°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector - base breakdown voltage	V_{CB0}	$I_C=100\mu A, I_E=0$	40			V
Collector - emitter breakdown voltage	V_{CE0}	$I_C=0.1mA, I_B=0$	25			V
Emitter - base breakdown voltage	V_{EB0}	$I_E=100\mu A, I_C=0$	5			V
Collector cut - off current	I_{CBO}	$V_{CB}=40V, I_E=0$			0.1	μA
Collector cut - off current	I_{CEO}	$V_{CE}=20V, I_B=0$			1	μA
Emitter cut - off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=1V, I_C=50mA$	120		400	
		$V_{CE}=1V, I_C=500mA$	40			
Collector - emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$			1.2	V
Transition frequency	f_T	$V_{CE}=6V, I_C=20mA, f=30MHz$	150			MHz

Classification of $h_{fe}(1)$

Type	S9013	S9013-L	S9013-H	S9013-J
Range	200-350	120-200	144-202	300-400
Marking	J3			