

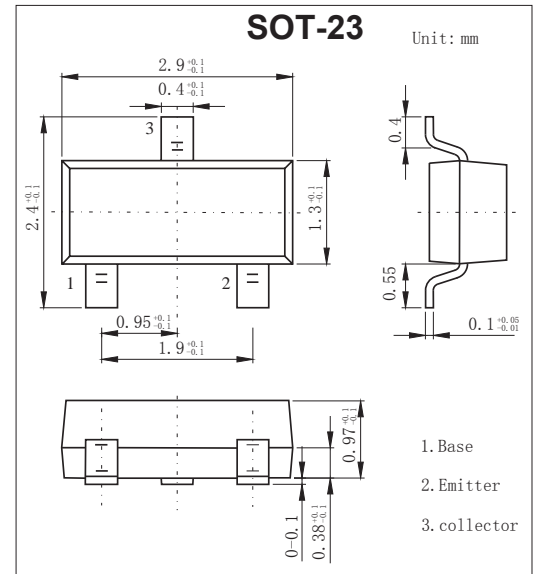
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Collector Current Capability  $I_c=50\text{mA}$
- Collector Emitter Voltage  $V_{CE0}=160\text{V}$
- 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	$V_{CB0}$	180	V
Collector - Emitter Voltage	$V_{CE0}$	160	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_c$	50	mA
Collector Power Dissipation	$P_c$	150	mW
Junction Temperature	$T_J$	125	°C
Storage Temperature Range	$T_{stg}$	-55 to 125	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c=100\mu\text{A}, I_E=0$	180			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c=1\text{mA}, I_B=0$	160			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E=100\mu\text{A}, I_c=0$	5			
Collector-base cut-off current	$I_{CB0}$	$V_{CB}=160\text{V}, I_E=0$			0.1	uA
Emitter cut-off current	$I_{EB0}$	$V_{EB}=5\text{V}, I_c=0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=50\text{mA}, I_B=5\text{mA}$			0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c=50\text{mA}, I_B=5\text{mA}$			1	
DC current gain	$h_{FE}$	$V_{CE}=3\text{V}, I_c=1\text{mA}$	70			
		$V_{CE}=3\text{V}, I_c=15\text{mA}$	90		400	
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2.3		pF
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_E=-10\text{mA}$		120		MHz

### ■ Classification of $h_{fe}(2)$

Type	2SC1654-N5	2SC1654-N6	2SC1654-N7
Range	90-180	135-270	200-400
Marking	N5	N6	N7



# RATINGS AND CHARACTERISTIC CURVES

## ■ Typical Characteristics

