

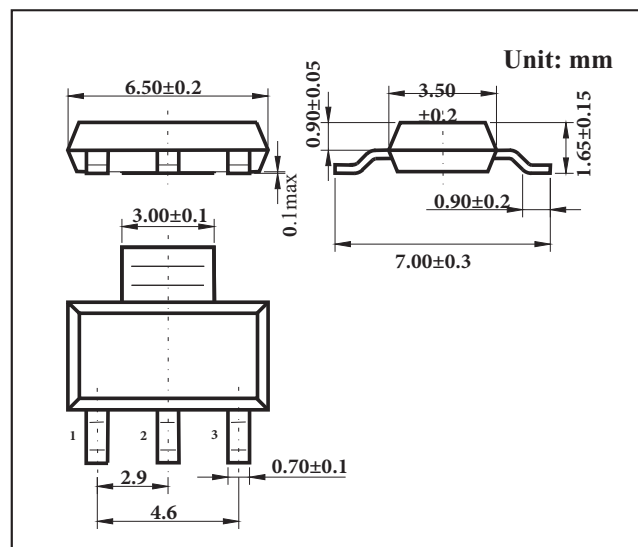
SOT-223 Plastic Encapsulate Transistors

FEATURES

- Low Voltage and Low Current
- General Purpose Amplifier and Switch Application
- NPN Transistors

MECHANICAL DATA

- Case: SOT-223 Small Outline Plastic Package
- Mounting Position: Any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CBO}	60	V
Collector - Emitter Voltage	V _{CEO}	40	
Emitter - Base Voltage	V _{EBO}	6	
Collector Current - Continuous	I _C	200	mA
Collector Power Dissipation	P _C	1	W
Thermal Resistance From Junction To Ambient	R _{θJA}	125	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 mA, I_B = 0$	40			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60 V, I_E = 0$			100	nA
Collector cut-off current	I_{CEX}	$V_{CE} = 30 V, V_{EB(off)} = -3V$			50	
Emitter cut-off current	I_{EBO}	$V_{EB} = 6V, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 mA, I_B = 1mA$			0.2	V
		$I_C = 50 mA, I_B = 5mA$			0.3	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10 mA, I_B = 1mA$	0.65		0.85	
		$I_C = 50 mA, I_B = 5mA$			0.95	
DC current gain	$h_{FE(1)}$	$V_{CE} = 1V, I_C = 0.1mA$	40			
	$h_{FE(2)}$	$V_{CE} = 1V, I_C = 1mA$	70			
	$h_{FE(3)}$	$V_{CE} = 1V, I_C = 10mA$	100		300	
	$h_{FE(4)}$	$V_{CE} = 1V, I_C = 50mA$	60			
Delay time	t_d	$V_{CC} = 3V, V_{BE(off)} = -0.5V$ $I_C = 10mA, I_{B1} = -I_{B2} = 1mA$			35	nS
Rise time	t_r				35	
Storage time	t_s	$V_{CC} = 3V, I_C = 10mA, I_{B1} = -I_{B2} = 1mA$			200	
Fall time	t_f				50	
Collector output capacitance	C_{ob}	$V_{CB} = 5V, I_E = 0, f = 1MHz$			4	pF
Transition frequency	f_T	$V_{CE} = 20V, I_C = 10mA, f = 100MHz$	300			MHz

RATINGS AND CHARACTERISTIC CURVES

