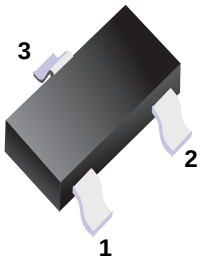
■ NPN Transistors



1.Base
2.Emitter
3.Collecter

■ Simplified outline(SOT-523)

■ Features

- Small Package
- Complementary to MMBT2907AT

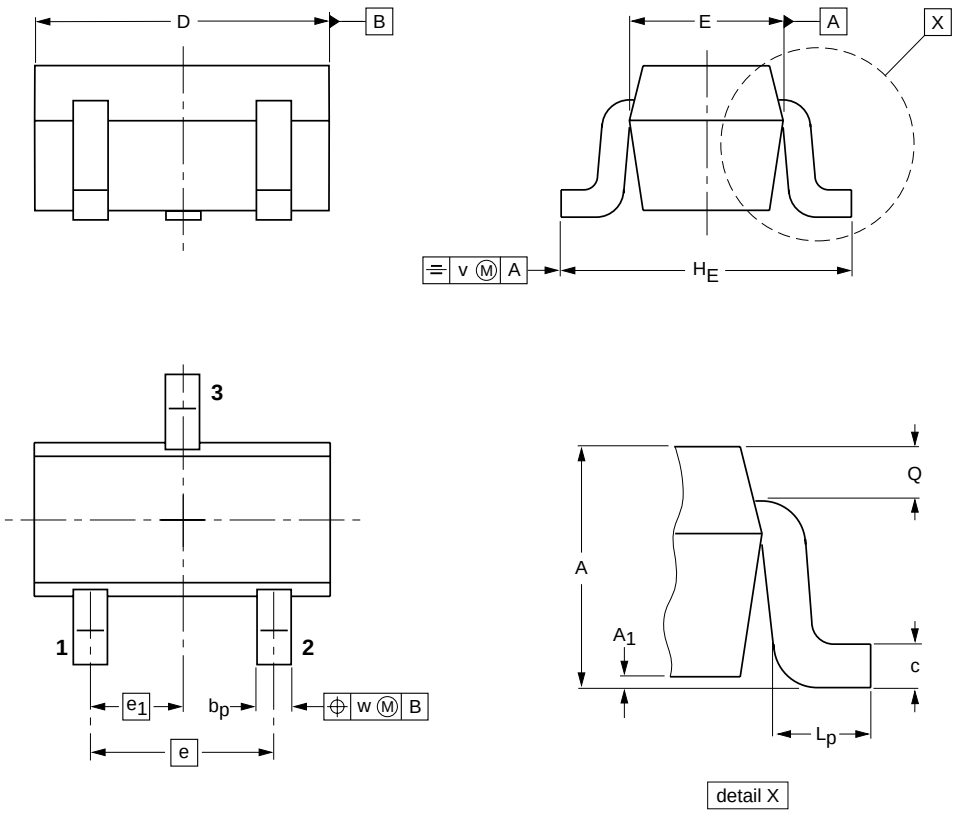
■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	75	V
Collector - Emitter Voltage	V_{CEO}	40	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	°C/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	75			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 10 mA, I_B= 0	40			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA, I_C= 0	6			
Collector-base cut-off current	I_{CBO}	V_{CB}= 75 V , I_E= 0			100	nA
Collector cut-off current	I_{CEX}	V_{CE}= 60 V , $V_{EB(off)}$=3V			100	
Emitter cut-off current	I_{EBO}	V_{EB}= 6V , I_C=0			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=150 mA, I_B=15mA			0.3	V
		I_C= 500 mA, I_B= 50mA			1	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=150 mA, I_B=15mA			1.2	
		I_C= 500 mA, I_B= 50mA			2	
DC current gain	$h_{FE(1)}$	V_{CE}= 10V, I_C= 0.1mA	35			
	$h_{FE(2)}$	V_{CE}= 10V, I_C= 1mA	50			
	$h_{FE(3)}$	V_{CE}= 10V, I_C= 10mA	75			
	$h_{FE(4)}$	V_{CE}= 10V, I_C= 150mA	100		300	
	$h_{FE(5)}$	V_{CE}= 10V, I_C= 500mA	40			
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-0.5V I_C=150mA, I_{B1}=15mA			10	nS
Rise time	t_r				25	
Storage time	t_s	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA			225	
Fall time	t_f				60	
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz			8	pF
Transition frequency	f_T	V_{CE}= 20V, I_C= 20mA,f=100MHz	300			MHz

Package Outline SOT-523



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-523	Tape/Reel,7"reel	3000	EIA-481-1