

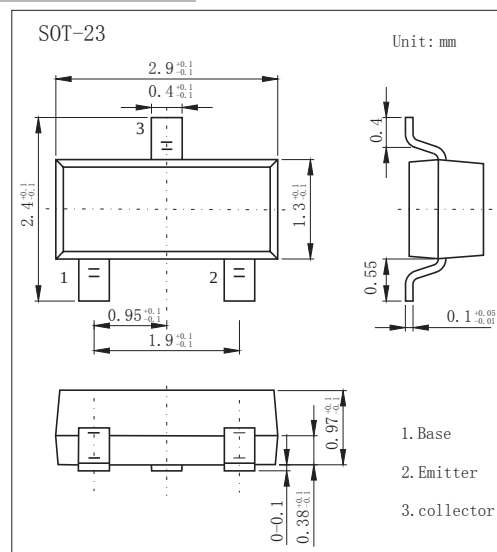
SOT-23 Plastic-Encapsulate Transistors

Features

- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary to MMBTA92 (PNP)
- 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}	300	V
Collector - Emitter Voltage	V _{CE0}	300	
Emitter - Base Voltage	V _{EB0}	5	
Collector Current - Continuous	I _C	500	mA
Collector Power Dissipation	P _C	350	mW
Thermal Resistance Junction to Ambient	R _{θJA}	357	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

PACKAGE INFORMATION

Device	Package	Shipping
MMBTA42	SOT-23	3000/Tape&Reel

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{CB0}	I _C = 100 μA, I _E = 0	300			V
Collector- emitter breakdown voltage	V _{CE0}	I _C = 1 mA, I _B = 0	300			
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	5			
Collector-base cut-off current	I _{CBO}	V _{CB} = 200 V, I _E = 0			0.1	μA
Emitter cut-off current	I _{EB0}	V _{EB} = 5V, I _C =0			0.1	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 20 mA, I _B = 2mA			0.2	V
Base - emitter saturation voltage	V _{BE(sat)}	I _C = 20mA, I _B = 2mA			0.9	
DC current gain	h _{fe} (1)	V _{CE} = 10V, I _C = 1mA	60			
	h _{fe} (2)	V _{CE} = 10V, I _C = 10mA	100		300	
	h _{fe} (3)	V _{CE} = 10V, I _C = 30mA	60			
Transition frequency	f _T	V _{CE} = 20V, I _C = 10mA, f=30MHz	50			MHz

Classification of h_{fe}(2)

Type	MMBTA42	MMBTA42-L
Range	100-300	100-200
Marking	1D	



RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

