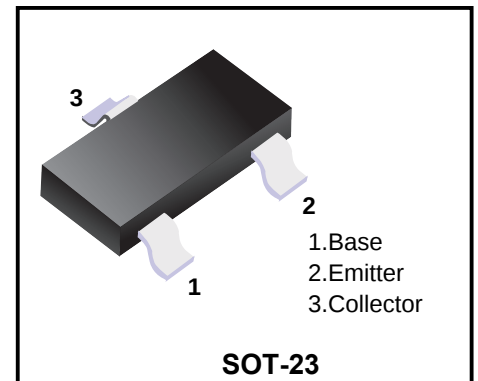


NPN Transistors

Features

- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary to MMBTA92 (PNP)



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	VCBO	300	V
Collector - Emitter Voltage	VCEO	300	
Emitter - Base Voltage	VEBO	5	
Collector Current - Continuous	IC	500	mA
Collector Power Dissipation	PC	350	mW
Thermal Resistance Junction to Ambient	RθJA	357	°C/W
Junction Temperature	TJ	150	°C
Storage Temperature Range	Tstg	-55 to 150	

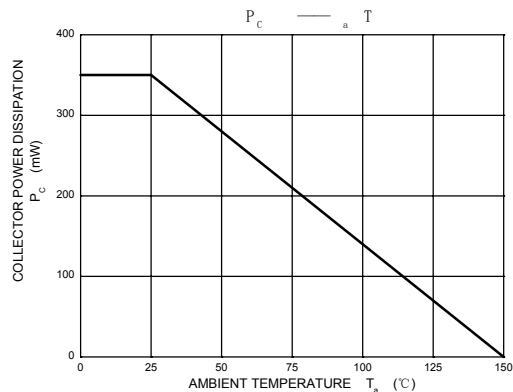
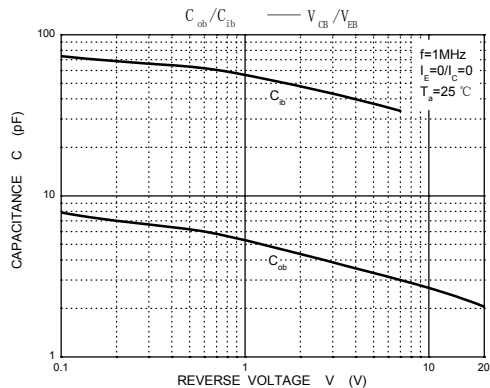
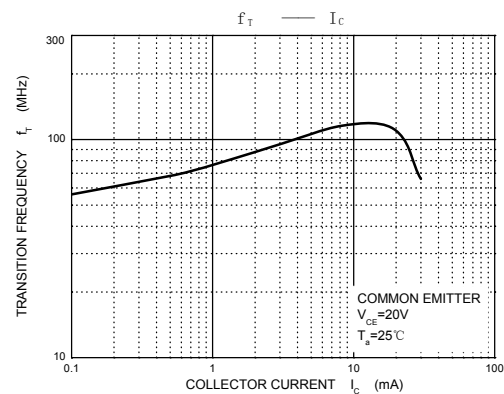
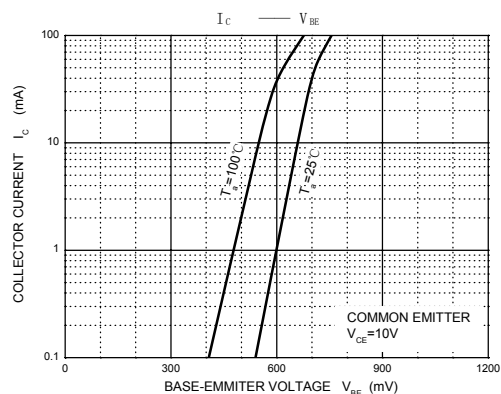
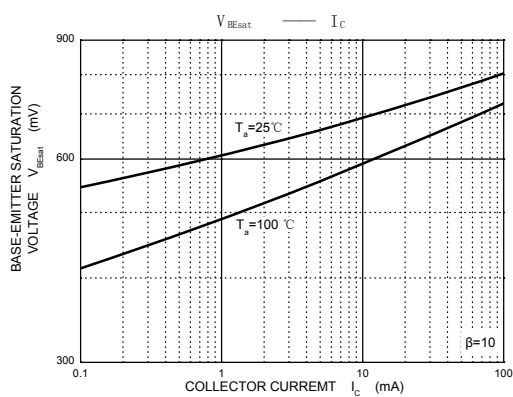
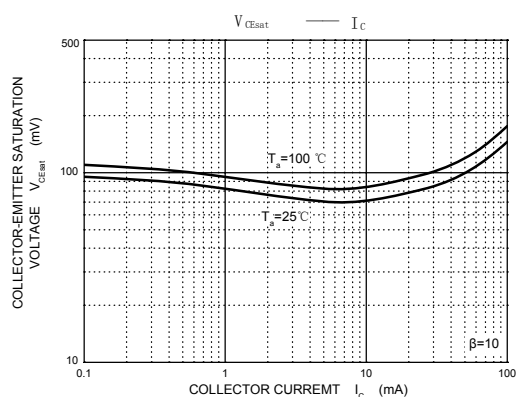
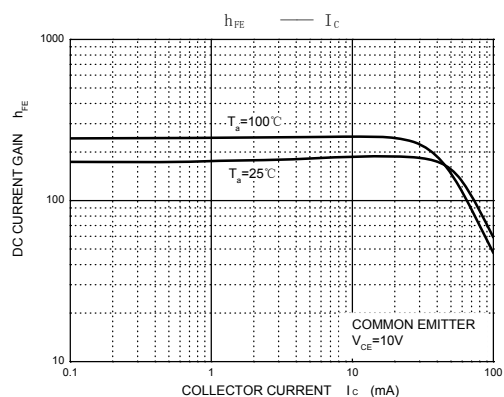
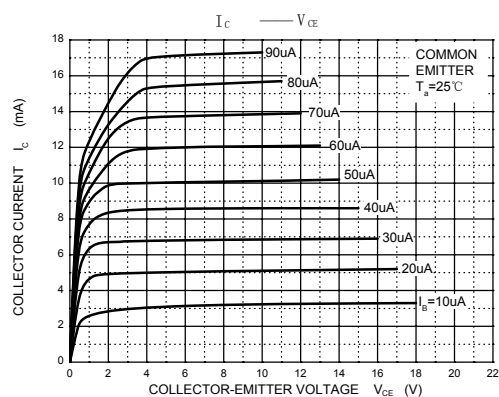
Electrical Characteristics (Ta=25°C unless otherwise specified.)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	VCBO	IC= 100 μA, IE= 0	300			V
Collector- emitter breakdown voltage	VCEO	IC= 1 mA, IB= 0	300			
Emitter - base breakdown voltage	VEBO	IE= 100 μA, IC= 0	5			
Collector-base cut-off current	ICBO	VCB= 200 V, IE= 0			0.1	μA
Emitter cut-off current	IEBO	VEB= 5V, IC=0			0.1	
Collector-emitter saturation voltage	VCE(sat)	IC= 20 mA, IB= 2mA			0.2	V
Base - emitter saturation voltage	VBE(sat)	IC= 20mA, IB= 2mA			0.9	
DC current gain	hfe (1)	VCE= 10V, IC= 1mA	60			
	hfe (2)	VCE= 10V, IC= 10mA	100		300	
	hfe (3)	VCE= 10V, IC= 30mA	60			
Transition frequency	fT	VCE= 20V, IC= 10mA, f=30MHz	50			MHz

hFE Classification

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

Typical Characteristics



Ordering information

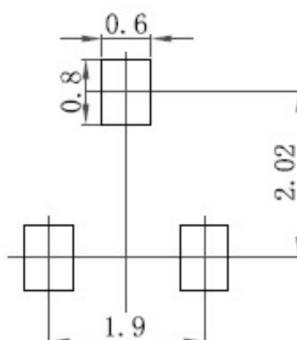
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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