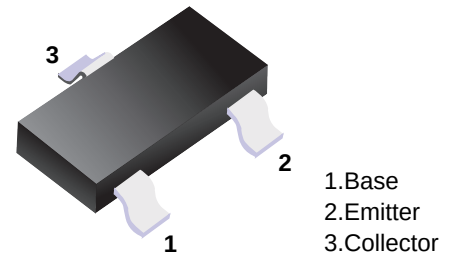


■ NPN Transistors

■ Features

- For Switching and Amplifier Applications
- Complementary to MMBTA56



■ Simplified outline(SOT-23)

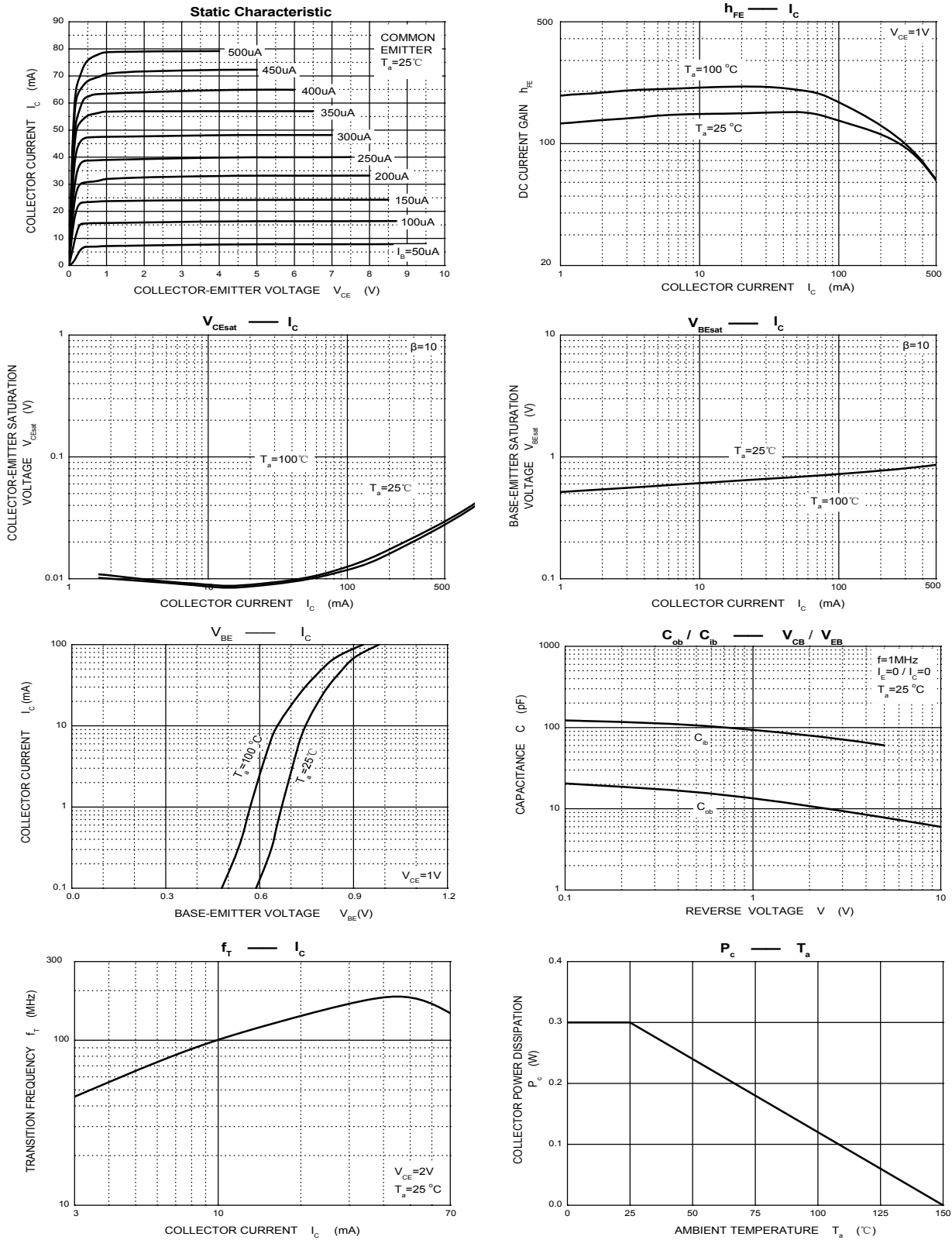
■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	80	V
Collector - Emitter Voltage	V _{CE0}	80	
Emitter - Base Voltage	V _{EB0}	4	
Collector Current - Continuous	I _c	500	mA
Collector Power Dissipation	P _c	300	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	416	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

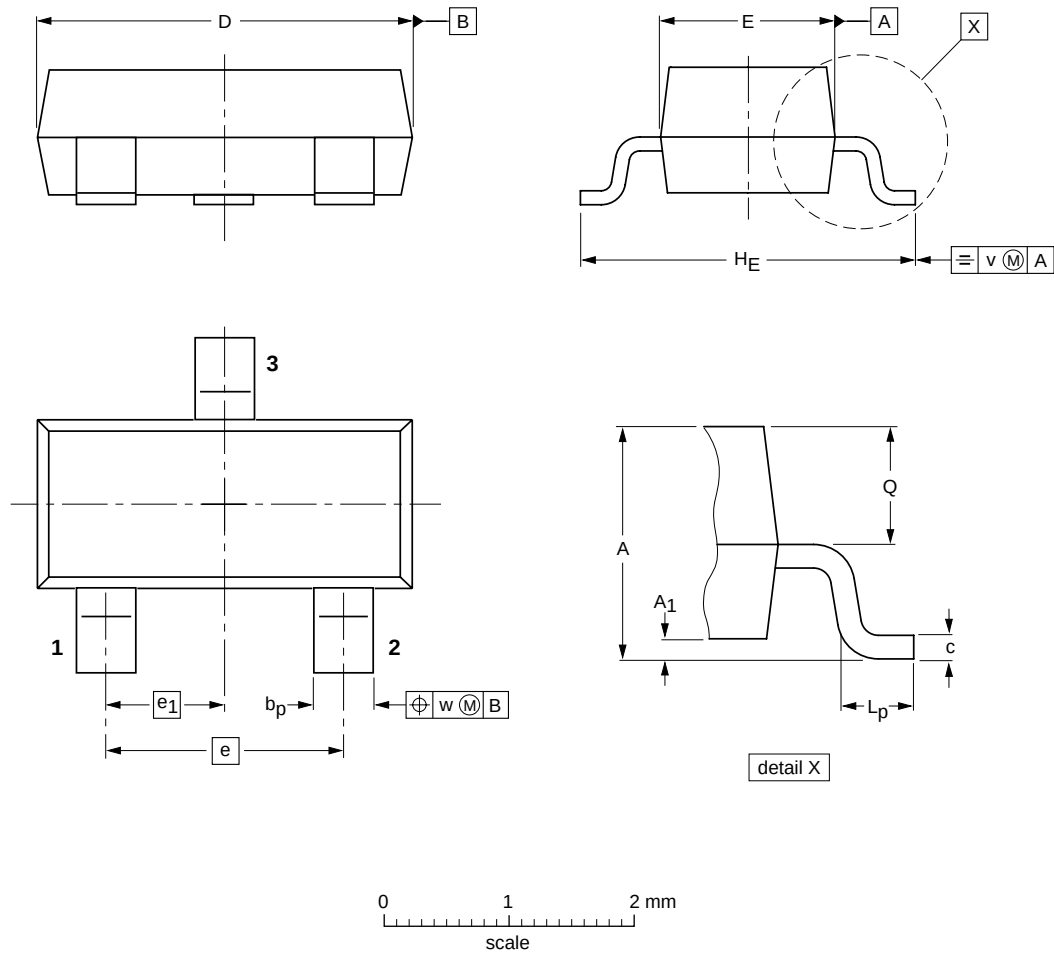
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _c = 100 μA, I _E = 0	80			V
Collector- emitter breakdown voltage	V _{CE0}	I _c = 1 mA, I _B = 0	80			
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	4			
Collector-base cut-off current	I _{CB0}	V _{CB} = 80 V, I _E = 0			100	nA
Collector- emitter cut-off current	I _{CES}	V _{CE} = 60 V, I _E = 0			100	
Emitter cut-off current	I _{EB0}	V _{EB} = 3V, I _C =0			100	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =100 mA, I _B =10mA			0.25	V
Base - emitter saturation voltage	V _{BE(sat)}	I _C =100 mA, I _B =10mA			1.2	
DC current gain	h _{FE(1)}	V _{CE} = 1V, I _C = 10mA	100		400	
	h _{FE(2)}	V _{CE} = 1V, I _C = 100mA	100			
Transition frequency	f _T	V _{CE} = 2V, I _C = 10mA, f=100MHz	100			MHz

■ Typical Characteristics



Package Outline

SOT-23



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	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1