

■ Features

- Epitaxial Planar Die Construction
- Also Available in Lead Free Version
- Complementary to MMBT3904T



SOT-523 (SC-75A)

■ Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

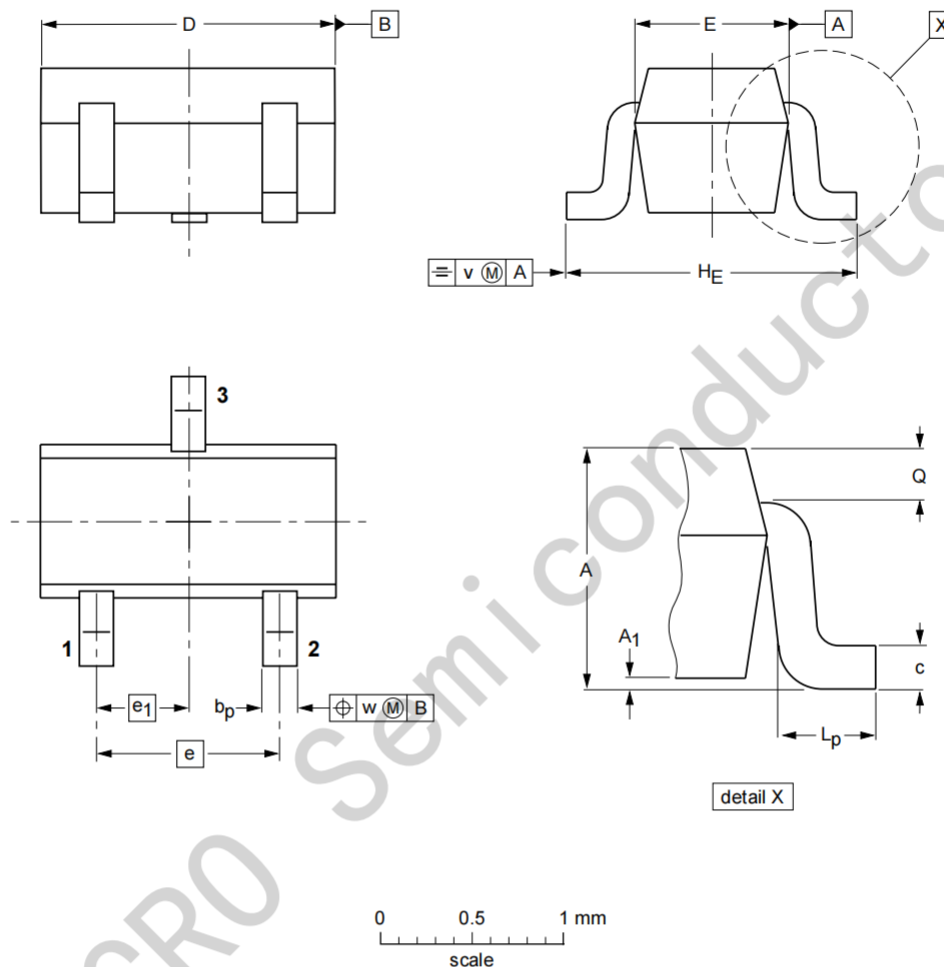
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	-40	V
Collector - Emitter Voltage	V_{CE0}	-40	
Emitter - Base Voltage	V_{EB0}	-5	
Collector Current - Continuous	I_C	-200	mA
Collector Power Dissipation	P_C	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
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 _{CBO}	I _C = -100 μ A, I _E = 0	-40			V
Collector- emitter breakdown voltage	V _{CEO}	I _C = -1 mA, I _B = 0	-40			
Emitter - base breakdown voltage	V _{EBO}	I _E = -100 μ A, I _C = 0	-5			
Collector-base cut-off current	I _{CBO}	V _{CB} = -30 V, I _E = 0			-100	nA
Collector cut-off current	I _{CEX}	V _{CB} =-30V, V _{BE(off)} = 3V			-50	
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C =0			-100	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-10 mA, I _B =-1mA			-0.25	V
		I _C = -50 mA, I _B = -5mA			-0.4	
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} = -10V, I _C = 0.1mA	60			
	h _{FE(2)}	V _{CE} = -10V, I _C = -1mA	80			
	h _{FE(3)}	V _{CE} = -10V, I _C =- 10mA	100		300	
	h _{FE(4)}	V _{CE} = -10V, I _C = -50mA	60			
	h _{FE(5)}	V _{CE} = -10V, I _C = -100mA	30			
Delay time	t _d	V _{CC} =-3V, V _{BE(OFF)} = 0.5V			35	nS
Rise time	t _r	I _C =-10mA, I _{B1} =-1mA			35	
Storage time	t _s	V _{CC} =-3V, I _C =-10mA, I _{B1} =I _{B2} =-1mA			225	
Fall time	t _f				75	
Noise figure	NF	V _{CE} =-5V, I _C = -0.1mA			4	dB
Collector input capacitance	C _{ib}	V _{EB} = -0.5V, I _E = 0, f=1MHz			10	pF
Collector output capacitance	C _{ob}	V _{CB} = -5V, I _E = 0, f=1MHz			4.5	
Transition frequency	f _T	V _{CE} = -20V, I _C = -10mA, f=100MHz	250			MHz

Package Information

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