

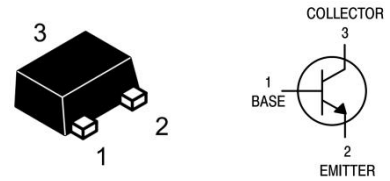
Features and benefits

- Complementary to MMBT3906G
- Small package saves board space

Ordering information

Device	Marking	Shipping
MMBT3904G	1N	8000/Tape & Reel

Schematic & Pin configuration



Maximum Ratings (T_A = 25 °C, unless otherwise specified)

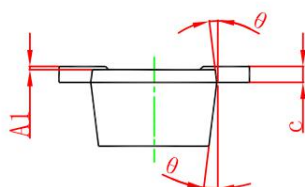
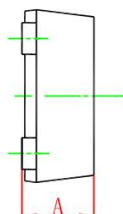
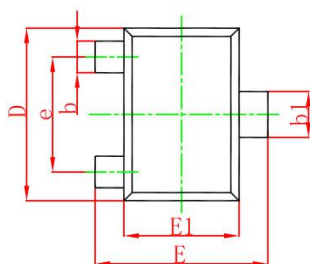
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current -Continuous	I _C	0.2	A
Power Dissipation	P _C	0.1	W
Thermal Resistance from Junction to Ambient	R _{θJA}	1250	°C/W
Junction temperature	T _j	125	°C
Storage temperature	T _{stg}	-50 to +150	°C

Electrical Characteristics (T_A = 25 °C, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			V
Collector cut-off current	I _{CEX}	V _{CE} =30V, V _{EB(off)} =3V			50	nA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			100	nA
DC current gain	h _{FE(1)}	V _{CE} =1V, I _C =0.1mA	40			
	h _{FE(2)}	V _{CE} =1V, I _C =1mA	70			
	h _{FE(3)}	V _{CE} =1V, I _C =10mA	100		300	
	h _{FE(4)}	V _{CE} =1V, I _C =50mA	60			
Collector-emitter saturation voltage	V _{CE(sat)1}	I _C =10mA, I _B =1mA			0.2	V
	V _{CE(sat)2}	I _C =50mA, I _B =5mA			0.3	V
Base-emitter saturation voltage	V _{BE(sat)1}	I _C =10mA, I _B =1mA	0.65		0.85	V
	V _{BE(sat)2}	I _C =50mA, I _B =5mA			0.95	V
Transition frequency	f _T	V _{CE} =20V, I _C =10mA, f=100MHz	300			MHz
Output capacitance	C _{ob}	V _{CB} =5V, I _E =0, f=1MHz			4	pF
Input capacitance	C _{ib}	V _{EB} =0.5V, I _C =0, f=1MHz			8	pF
Noise figure	NF	V _{CE} =5V, I _C =0.1mA, f=1MHz, R _S =1k			5	dB
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	ns
Storage	t _s	V _{CC} =3V, I _C =10mA,			200	ns
Fall time	t _f	I _{B1} =I _{B2} =1mA			50	ns

Package Outline Dimensions

SOT723



Symbol	Dimensions In Millimet	
	Min	Max
A	0.42	0.50
A1	0.00	0.05
b	0.16	0.28
b1	0.25	0.35
c	0.07	0.16
D	1.10	1.30
e	0.8TYP	
E	1.10	1.30
E1	0.75	0.85
θ	8°	10°

Suggested Pad Layout (mm)

