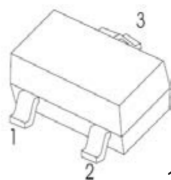


FEATURES

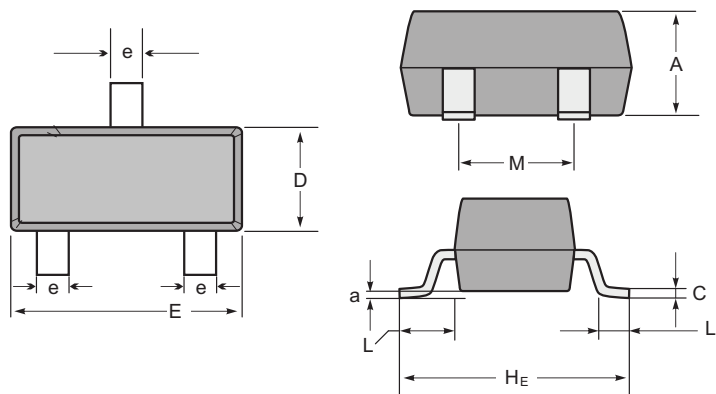
- As complementary type, the NPN transistor MMBT3904 is Recommended
- Epitaxial planar die construction



1.BASE
2.EMITTER
3.COLLECTOR

Marking

Type number	Marking code
2N3906	2A



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55	0.36	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7	(ref)	(ref)	0.15
mil	max	43	6	55	118	102	20	77	22	14	0.0
	min	35	3	47	110	87	12	67	(ref)	(ref)	6

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector–Base Voltage	V _{CBO}	-40	V
Collector–Emitter Voltage	V _{CEO}	-40	V
Emitter–Base Voltage	V _{EBO}	-5	V
Collector Current — Continuous	I _C	-0.2	A
Collector Dissipation	P _C	0.2	W
Thermal Resistance From Junction To Ambient	R _{thJA}	625	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C

2N3906

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{ mA}, I_B = 0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -40V, I_E = 0$		-100	nA
Collector cut-off current	I_{CEX}	$V_{CE} = -30V, V_{CE} = -3V$		-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$		-100	nA
DC current gain	h_{FE1}	$V_{CE} = -1V, I_C = -10mA$	100	300	
	h_{FE2}	$V_{CE} = -1V, I_C = -50mA$	60		
	h_{FE3}	$V_{CE} = -2V, I_C = -100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50mA, I_B = -5mA$		-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50mA, I_B = -5mA$		-0.95	V
Transition frequency	f_T	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	300		MHZ
Delay time	t_d	$V_{CC} = -3V, V_{BE} = -0.5V$ $I_C = -10mA, I_{B1} = I_{B2} = -1mA$		35	ns
Rise time	t_r			35	ns
Storage time	t_s	$V_{CC} = -3V, I_C = -10mA$ $I_{B1} = I_{B2} = -1mA$		225	ns
Fall time	t_f			75	ns

RATING AND CHARACTERISTIC CURVES (2N3906)

