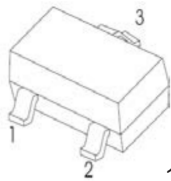




FEATURES

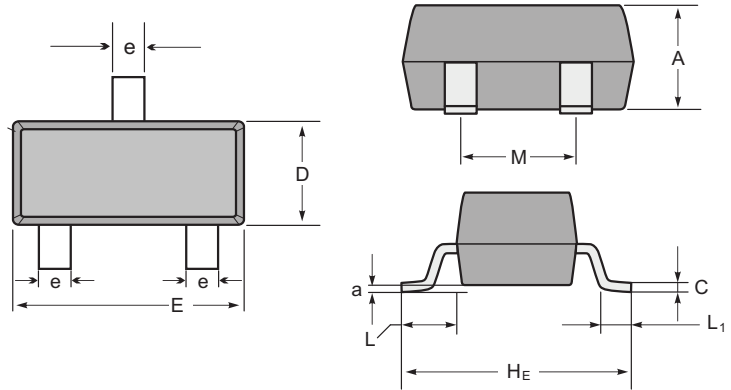
- Epitaxial planar die construction
- Complementary PNP Type available (MMBT2907A)



1.BASE
2.EMITTER
3.COLLECTOR

Marking

Type number	Marking code
MMBT2222A	1P



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 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

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

Parameter	Symbol	Value	Unit
Collector–Base Voltage	V _{CBO}	75	V
Collector–Emitter Voltage	V _{CEO}	40	V
Emitter–Base Voltage	V _{EBO}	6	V
Collector Current — Continuous	I _C	600	mA
Collector Power Dissipation	P _C	300	mW
Thermal Resistance From Junction To Ambient	R _{thJA}	417	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C

MMBT2222A

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	100-200	200-300
Marking	1P	

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60V, I_E = 0$			0.01	μA
Collector cut-off current	I_{CEX}	$V_{CE} = 30V, V_{BE(off)} = 3V$			0.01	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			0.1	μA
DC current gain	h_{FE1}	$V_{CE} = 10V, I_C = 150mA$	100		300	
	h_{FE2}	$V_{CE} = 10V, I_C = 0.1mA$	40			
	h_{FE3}	$V_{CE} = 10V, I_C = 500mA$	42			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			1.0 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 150mA, I_B = 15mA$			2.0 1.2	V
Transition frequency	f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	300			MHz
Delay time	t_d	$V_{CC} = 30V, V_{BE(off)} = -0.5V$			10	ns
Rise time	t_r	$I_C = 150mA, I_{B1} = 15mA$			25	ns
Storage time	t_s	$V_{CC} = 30V, I_C = 150mA$			225	ns
Fall time	t_f	$I_{B1} = -I_{B2} = 15mA$			60	ns

RATING AND CHARACTERISTIC CURVES (MMBT2222A)

