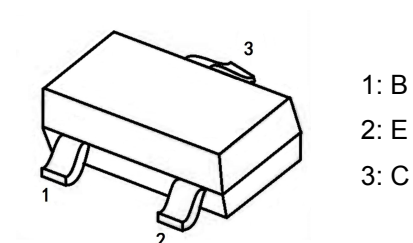


TRANSISTOR (PNP)

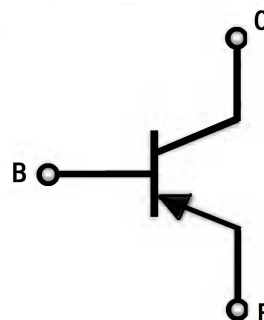
FEATURES

- Epitaxial planar die construction
- Complementary NPN Type available(MMBT2222A)

SOT-23



CIRCUIT DIAGRAM



MARKING : 2F

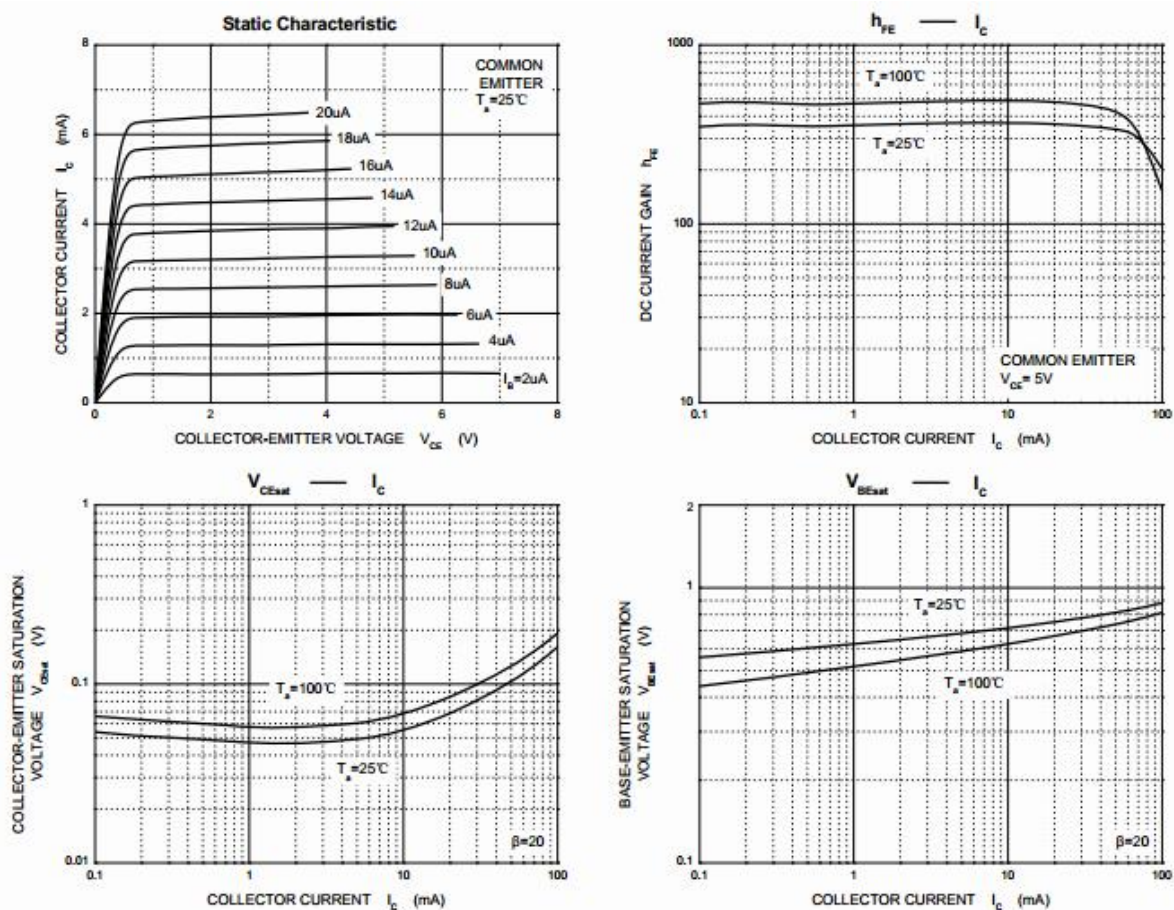
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_{CM}	-0.6	A
Power Dissipation	P_C	0.25	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55~150	°C

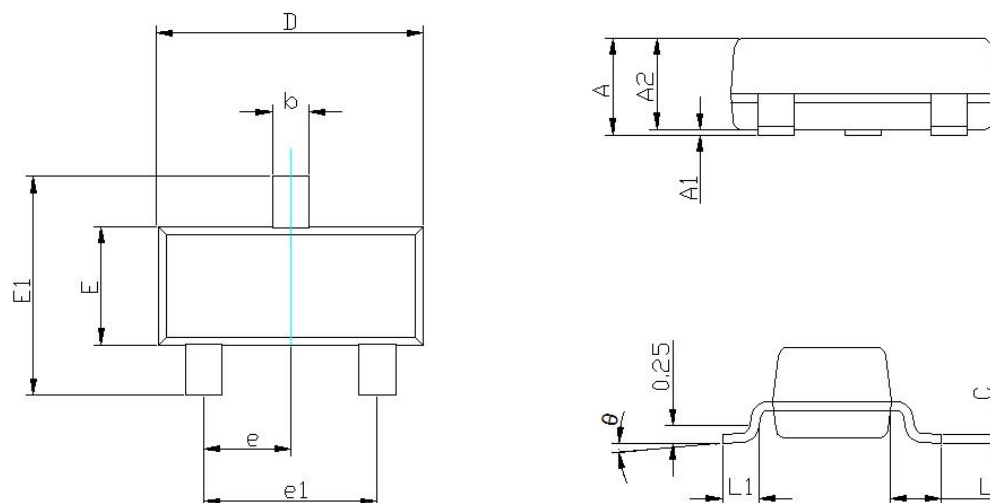
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu A, I_C = 0$	-5		V
Collector-base breakdown voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-60		V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-60		V
Emitter cut-off current	I_{EBO}	$V_{EB} = -3V, I_C = 0$		-0.1	μA
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -40V, I_B = 0$		-0.1	μA
Collector-emitter saturation voltage	V_{CESAT}	$I_C = -500mA, I_B = -50mA$		-1.0	V
Collector-emitter saturation voltage	V_{BESAT}	$I_C = -500mA, I_B = -50mA$		-2.0	V
DC current gain	h_{fe}	$V_{CE} = -10V, I_C = -150mA$	200	300	
DC current gain	h_{fe}	$V_{CE} = -10V, I_C = -0.1mA$	40		
DC current gain	h_{fe}	$V_{CE} = -10V, I_C = -600mA$	35		
Transition frequency	f_T	$V_{CE} = -20V, I_C = -20mA$ $F = 100MHz$	250		MHZ

TYPICAL CHARACTERISTICS



SOT-23 PACKAGE OUTLINE DRAWING



SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.15	0.035	0.045
A1	0.000	0.125	0.000	0.005
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF (0.4-0.6)		0.022REF (0.016-0.024)	
L1	0.300	0.500	0.012	0.020
theta	0°	8°	0°	8°