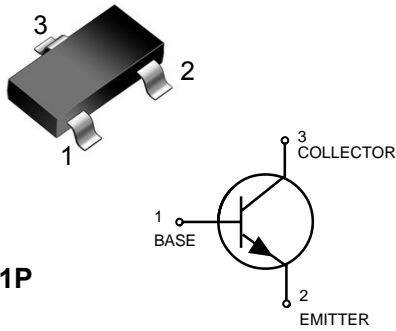


SOT-23



MARKING: 1P

Features

As complementary type the PNP transistor PMBT2907A is recommended
Epitaxial planar die construction
Halogen free and RoHS compliant

Mechanical Data

SOT-23 Small Outline Plastic Package
Epoxy UL: 94V-0

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	75	V
V _{CEO}	Collector-Emitter Voltage	40	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	600	mA
P _C	Total Device Dissipation	200	mW
R _{θJA}	Thermal Resistance Junction to Ambient	625	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55 to +150	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

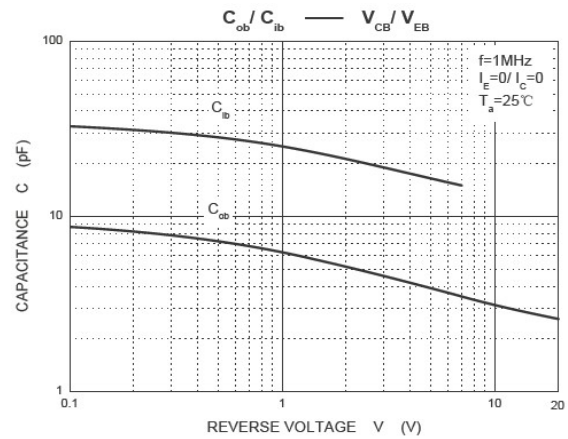
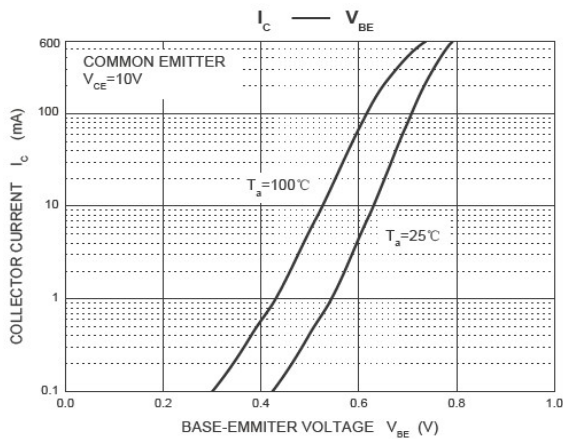
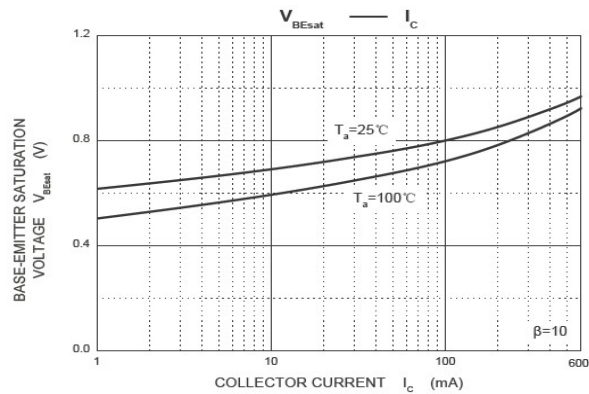
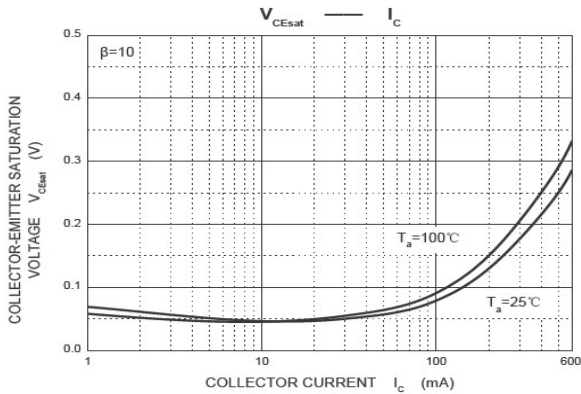
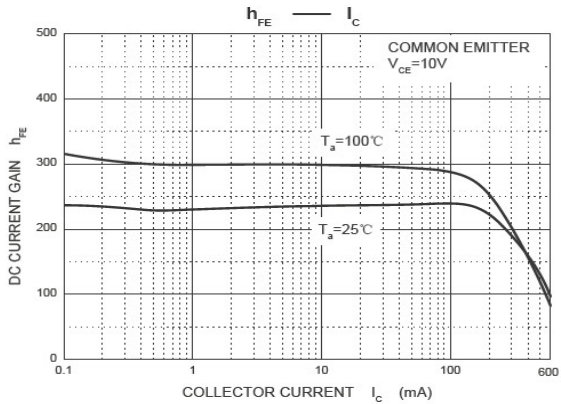
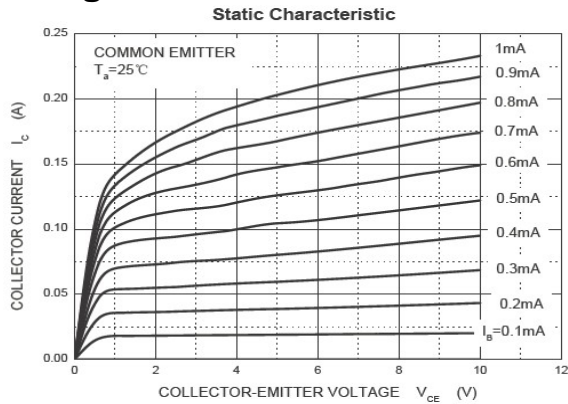
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I _C =10uA, I _E =0	75		V
Collector-emitter breakdown voltage	V(BR)CEO	I _C =1mA, I _B =0	30		V
Emitter-base breakdown voltage	V(BR)EBO	I _E =10uA, I _C =0	6		V
Collector cut-off current	I _{CEX}	V _{CE} =30V, V _{EB} (off)=3V		10	nA
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0		10	nA
Emitter cut-off current	I _{EBO}	V _{EB} =3V, I _C =0		100	nA
DC current gain	hFE(1)*	V _{CE} =10V, I _C =150mA	100	300	
	hFE(2)*	V _{CE} =10V, I _C =0.1mA	40		
	hFE(3)*	V _{CE} =10V, I _C =500mA	42		
Collector-emitter saturation voltage	V _{CE(sat)1} *	I _C =500mA, I _B =50mA		1.00	V
Collector-emitter saturation voltage	V _{CE(sat)2} *	I _C =150mA, I _B =15mA		0.30	V
Base-emitter saturation voltage	V _{BE(sat)1} *	I _C =500mA, I _B =50mA		2.00	V
Base-emitter saturation voltage	V _{BE(sat)2} *	I _C =150mA, I _B =15mA		1.20	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, I _C =150mA, I _{B1} =15mA		10	nS
Rise time	t _r			25	nS
Storage time	t _s			225	nS
Fall time	t _f	V _{CC} =30V, I _C =150mA, I _{B1} =I _{B2} =15mA		60	nS

*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%.

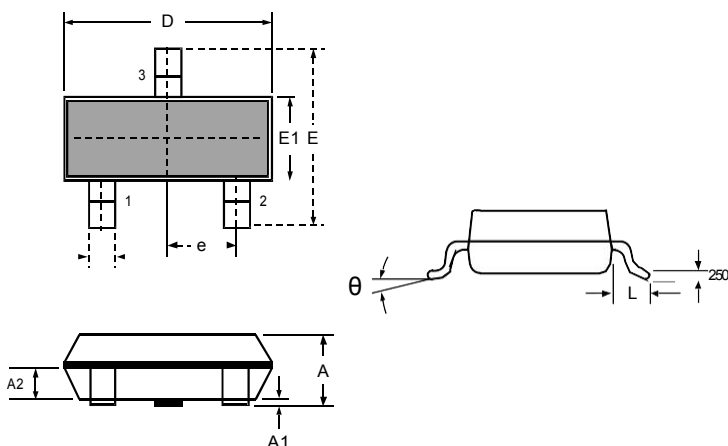
CLASSIFICATION OF $h_{FE}(1)$

HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Ratings and Characteristic Curves



Package Outline Dimensions: SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°

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