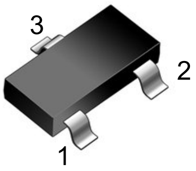
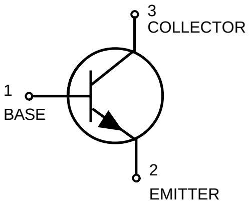
SOT-23





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℃ 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
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	625	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55 to +150	℃

Electrical Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified).

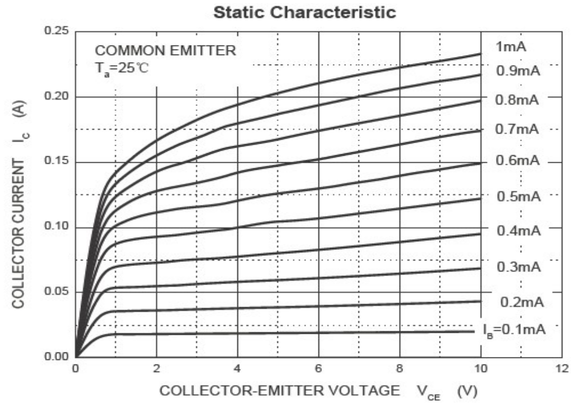
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	75		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=1mA, IB=0	30		V
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	6		V
Collector cut-off current	ICEX	VCE=30V, VEB(off)=3V		10	nA
Collector cut-off current	ICBO	VCB=60V, IE=0		10	nA
Emitter cut-off current	IEBO	VEB=3V, IC=0		100	nA
DC current gain	hFE(1)*	VCE=10V, IC=150mA	100	300	
	hFE(2)*	VCE=10V, IC=0.1mA	40		
	hFE(3)*	VCE=10V, IC=500mA	42		
Collector-emitter saturation voltage	VCE(sat)1*	IC=500mA, IB=50mA		1.00	V
Collector-emitter saturation voltage	VCE(sat)2*	IC=150mA, IB=15mA		0.30	V
Base -emitter saturation voltage	VBE(sat)1*	IC=500mA, IB=50mA		2.00	V
Base -emitter saturation voltage	VBE(sat)2*	IC=150mA, IB=15mA		1.20	V
Transition frequency	fT	VCE=20V, IC=20mA,f=100MHz	300		MHz
Delay time	td	VCC=30V, VBE(off)=-0.5V, IC=150mA, IB1=15mA		10	nS
Rise time	tr			25	nS
Storage time	ts	VCC=30V, IC=150mA, IB1=IB2=15mA		225	nS
Fall time	tf			60	nS

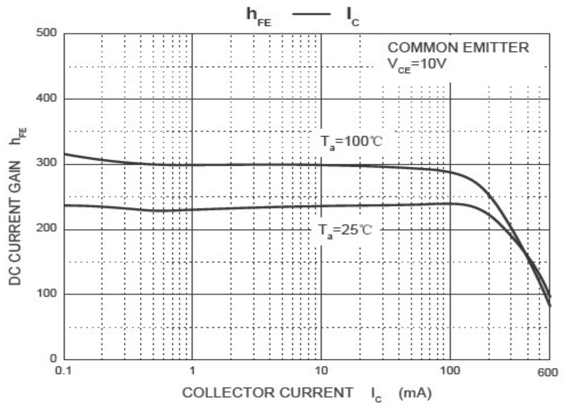
*Pulse test: pulse width≤300us, duty cycle≤2.0%.

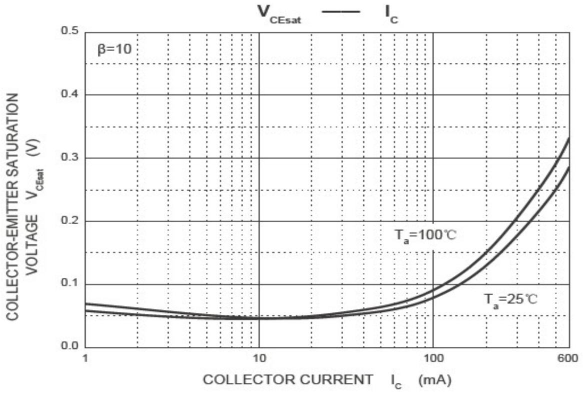
CLASSIFICATION OF $h_{FE(1)}$

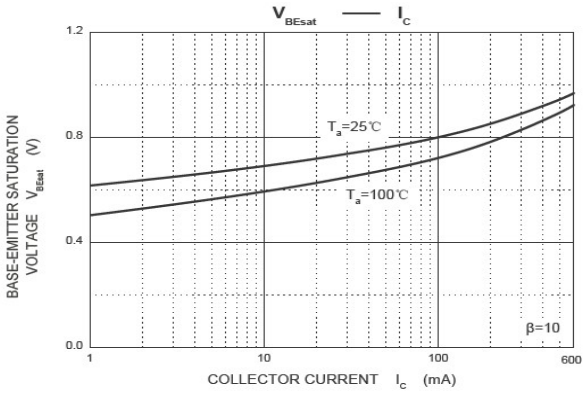
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

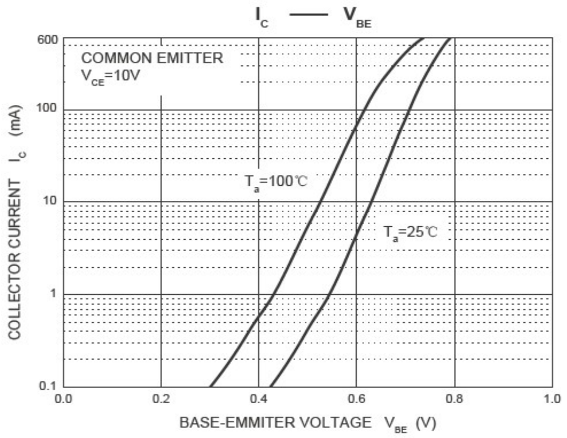
Ratings and Characteristic Curves

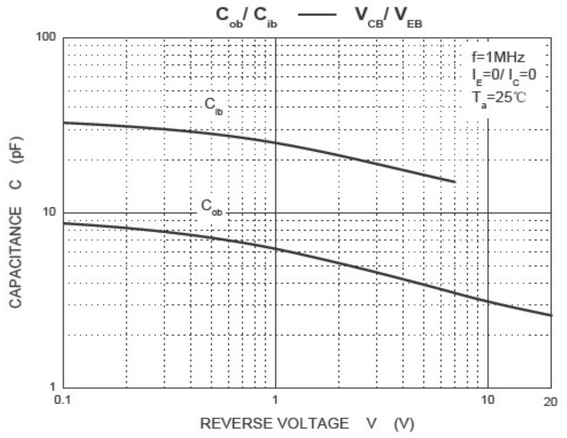




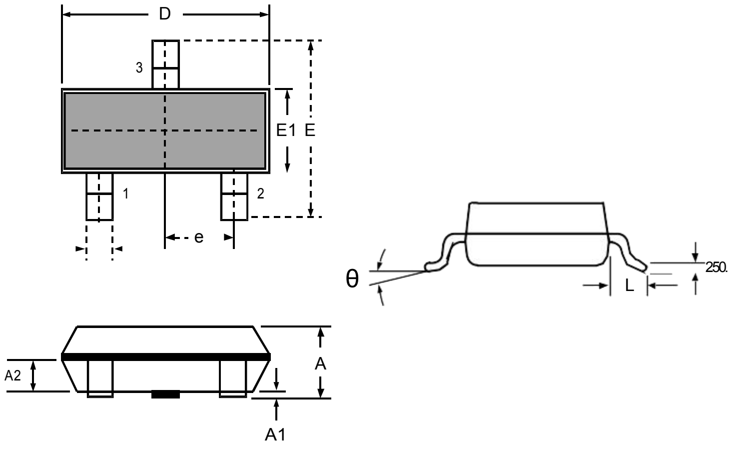








Package Outline Dimensions: SOT-23



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°