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M28S TRANSISTOR (NPN)

SOT-23 Plastic-Encapsulate Transistors

产品规格书

承认书

客户确认：				公司签章：
部门	工程部	品保部	采购部	
签名				
日期				

SHENZHEN HAOCHANG SEMICONDUCTOR CO.,LTD.

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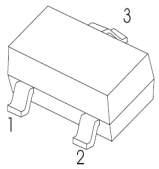
SOT－23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Excellent h_{FE} Linearity
- High DC Current Gain

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

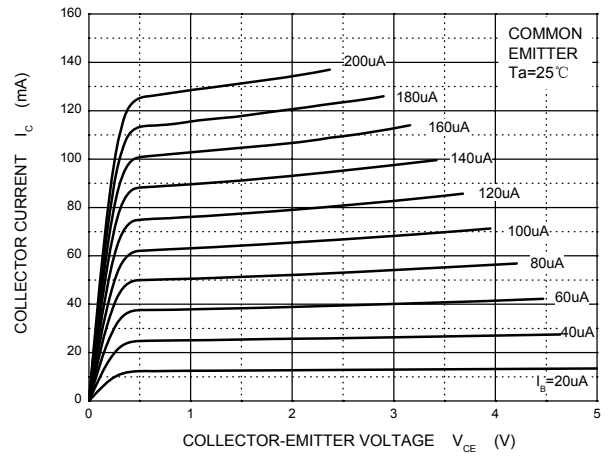
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=35V, I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=20V, I_B=0			5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=1mA	290			
	$h_{FE(2)}$	V_{CE}=1V, I_C=100mA	300		1000	
	$h_{FE(3)}$	V_{CE}=1V, I_C=300mA	300			
	$h_{FE(4)}$	V_{CE}=1V, I_C=500mA	300			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=600mA, I_B=20mA			0.55	V
Transition frequency	f_T	V_{CE}=10V,I_E=50mA, f=1MHz	100			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		9		pF

CLASSIFICATION OF $h_{FE(2)}$

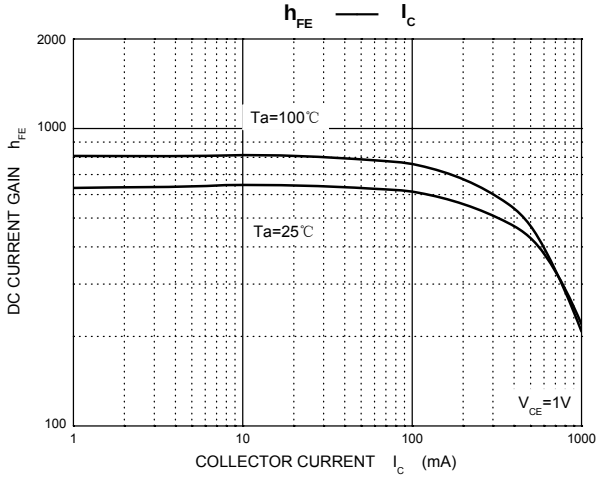
RANK	B	C	D
RANGE	300－550	500－700	650－1000
MARKING	28S		

Typical Characterisitics M28S

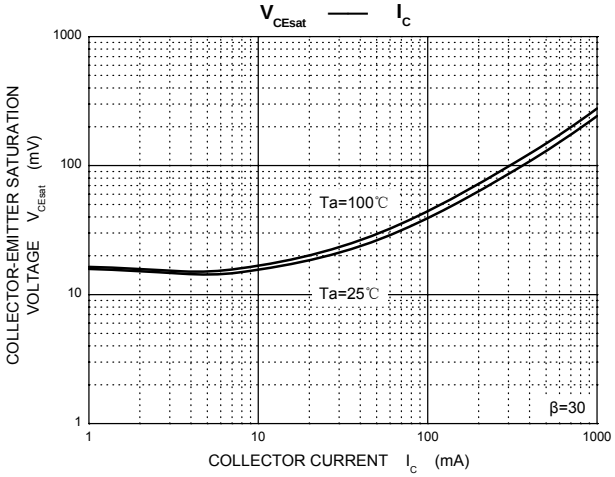
Static Characteristic



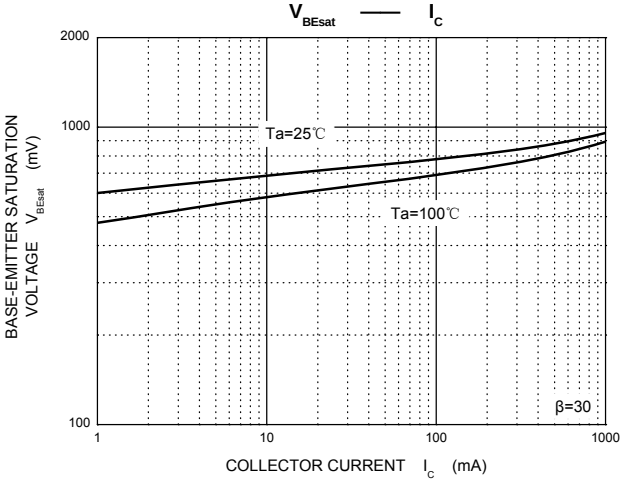
h_{FE} —— I_C



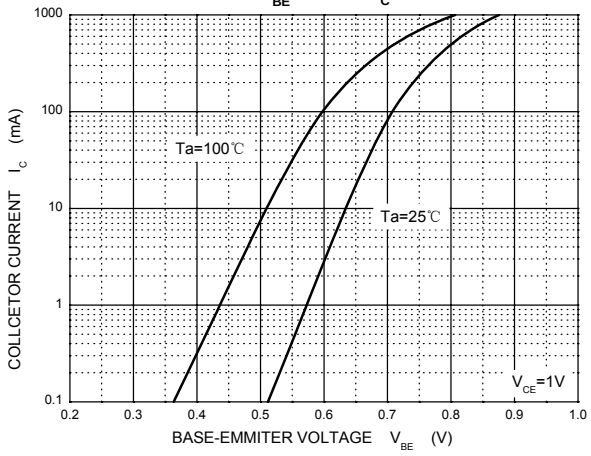
V_{CEsat} —— I_C



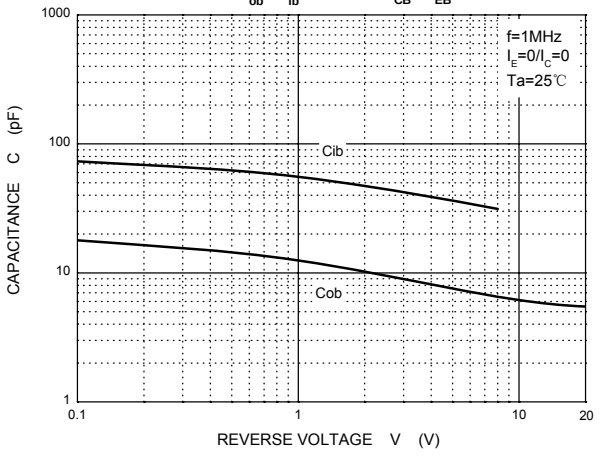
V_{BEsat} —— I_C



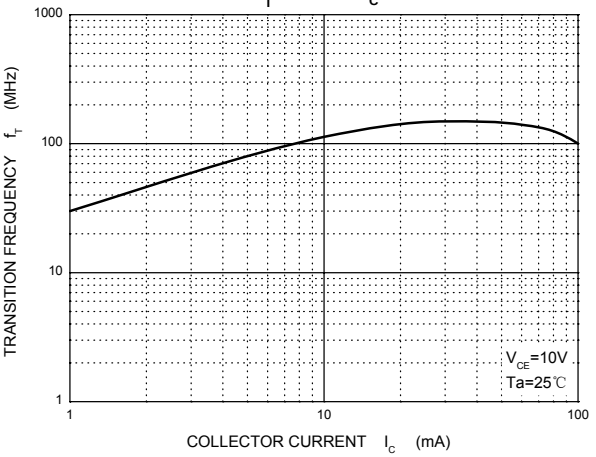
V_{BE} —— I_C



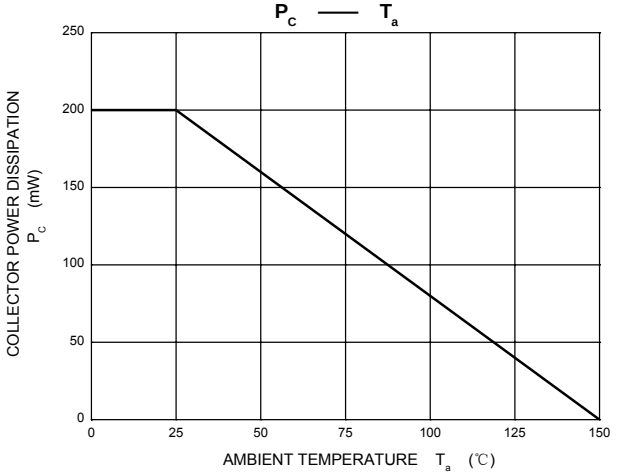
C_{ob} / C_{ib} —— V_{CB} / V_{EB}



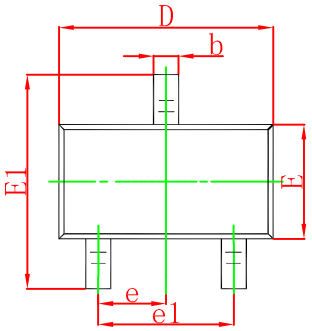
f_T —— I_C

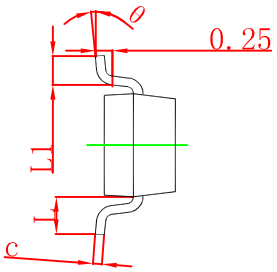


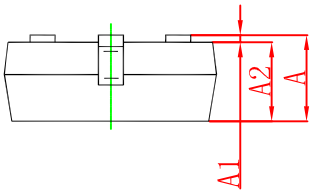
P_C —— T_a



SOT-23 Package Outline Dimensions

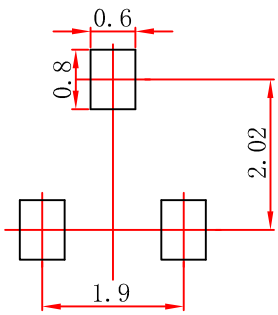






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.