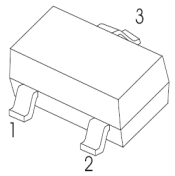
TRANSISTOR (NPN)

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Audio power amplifier application
- High h_{FE} : h_{FE}=100~320
- Complementary to 2SA1981

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	800	mA
P_C	Collector Power Dissipation	200	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

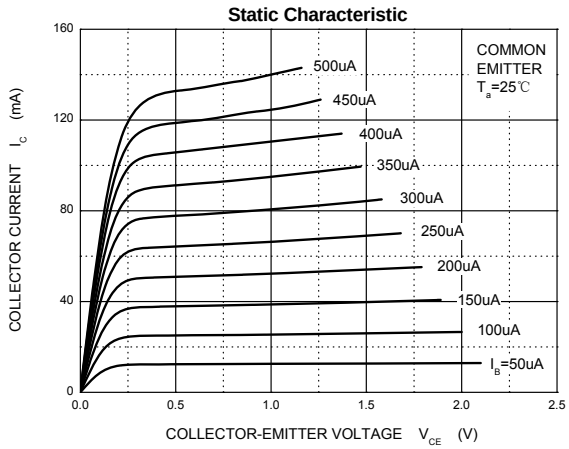
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

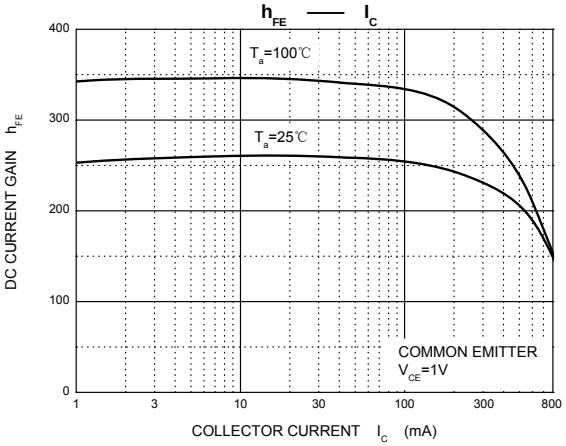
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = 0.1mA, I_B=0	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 0.01mA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=35V , I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V, I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=1V, I_C= 100mA	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= 500mA, I_B=50mA			0.5	V
Transition frequency	f_T	V_{CE}=5V, I_C=10mA		120		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V,I_E= 0,f=1MHz		13		pF

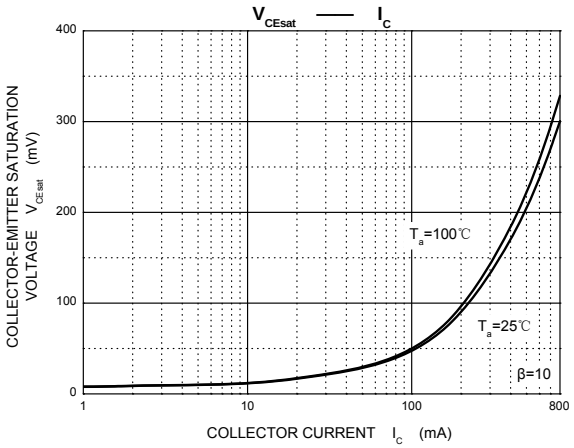
CLASSIFICATION OF $h_{FE(1)}$

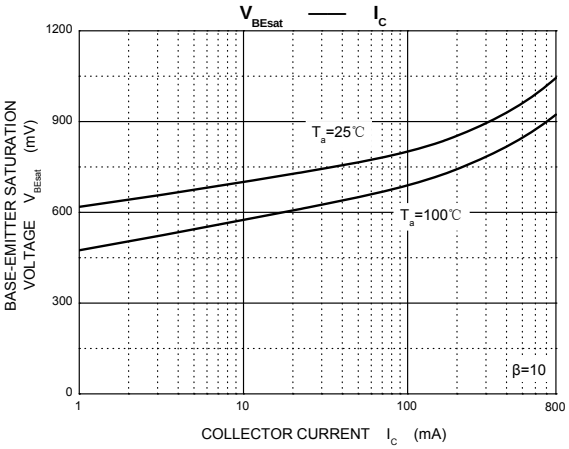
Rank	O	Y
Range	100-200	160-320
Marking	FAO	FAY

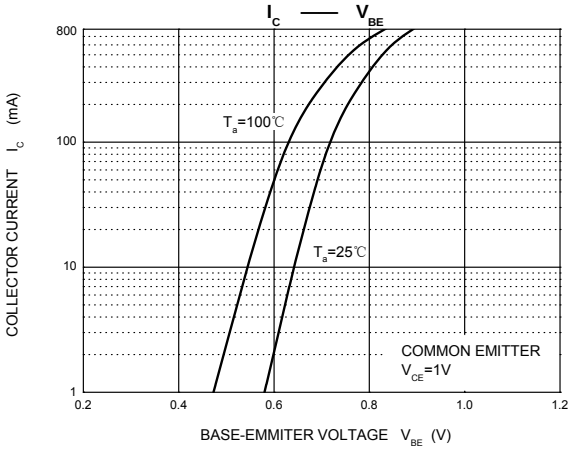
Typical Characteristics

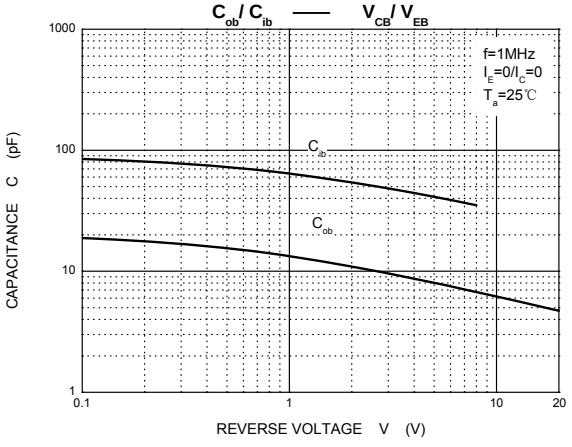


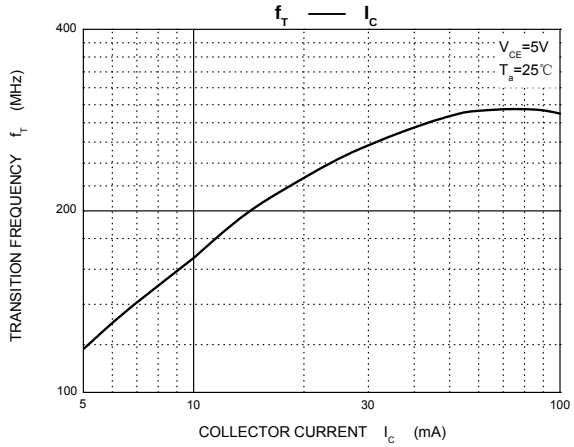


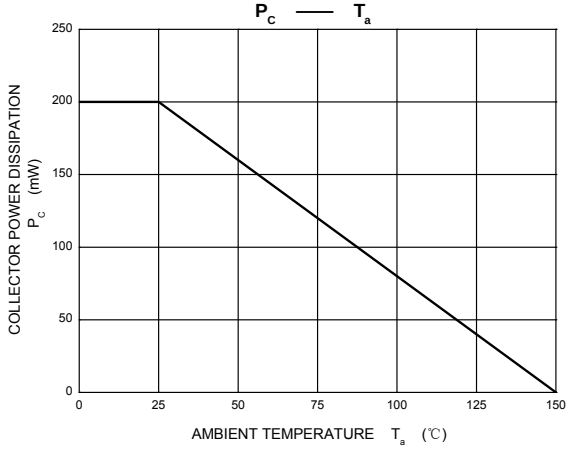




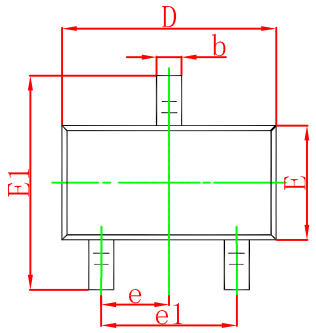


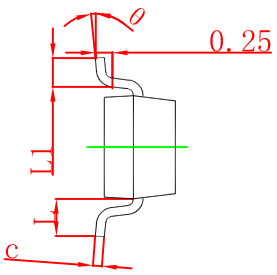


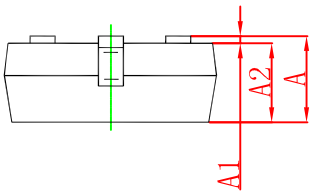




SOT-23 Package Outline Dimensions

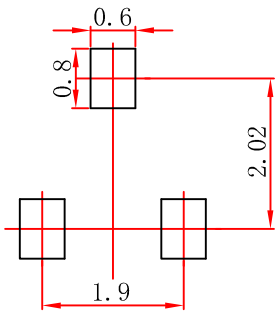






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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.