

TRANSISTOR (NPN)

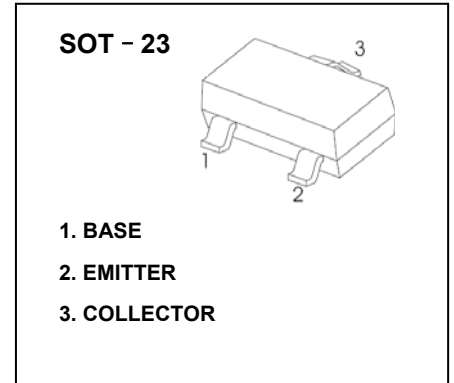
FEATURES

- Audio frequency power amplifier
- Medium speed switching

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	50	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current	1	A
P _C	Collector Power Dissipation	350	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	357	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C



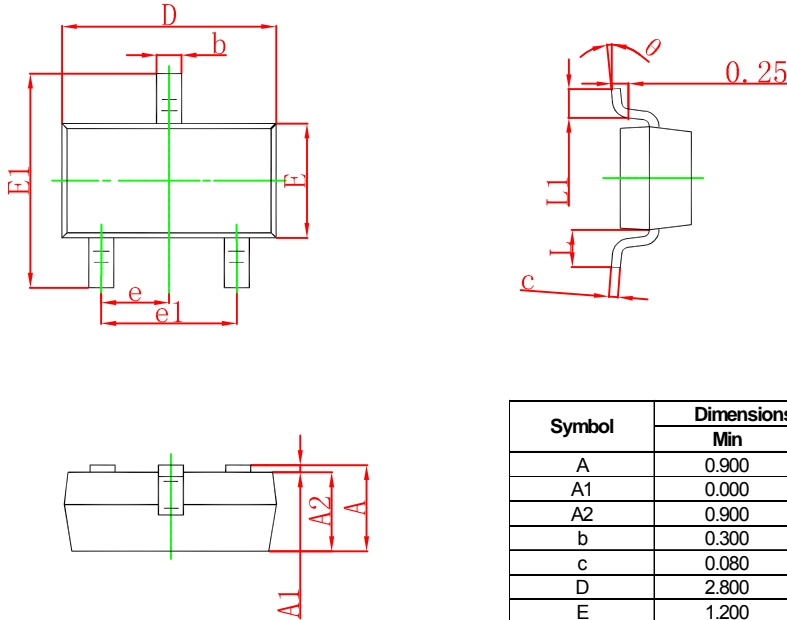
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =2mA, I _B =0	50			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0			100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =6V, I _C =0			100	nA
DC current gain	h _{FE(1)}	V _{CE} =2V, I _C =100mA	135		600	
	h _{FE(2)}	V _{CE} =2V, I _C =1A	81			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1A, I _B =50mA			0.3	V
Collector-emitter saturation voltage	V _{BE(sat)}	I _C =1A, I _B =50mA			1.2	V
Base-emitter voltage	V _{BE}	V _{CE} =2V, I _C =50mA	0.6		0.7	V
Transition frequency	f _T	V _{CE} =2V, I _C =100mA, f=100MHz	100			MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			19	pF

CLASSIFICATION OF h_{FE(1)}

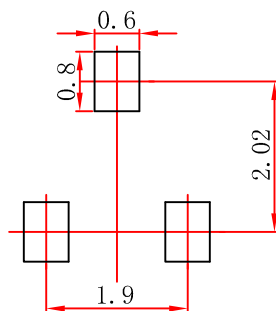
RANK	Y	G	L
RANGE	135~270	200~400	300~600

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: ± 0.05 mm.
 3. The pad layout is for reference purposes only.