

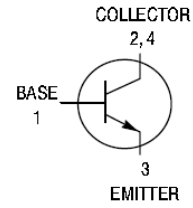
Features

- Epitaxial planar die construction
- Complementary PNP type available 2SB1260R
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SD1898R-P	SOT-223	4000 pcs / Tape & Reel	DF
2SD1898R-Q	SOT-223	4000 pcs / Tape & Reel	DF
2SD1898R-R	SOT-223	4000 pcs / Tape & Reel	DF

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	120	V
Collector-Emitter Breakdown Voltage	V _{CEO}	80	V
Emitter-Base Breakdown Voltage	V _{EBO}	5	V
Collector Current (Continuous)	I _C	1	A
Collector Current (Peak)	I _{CM}	2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	1.1	W
Thermal Resistance (Junction-to-Ambient)	R _{θJA}	114	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}$, $I_E = 0$	120	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}$, $I_C = 0$	5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 100\text{V}$, $I_E = 0$	-	-	1	μA
Base Cut-off Current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$	-	-	1	μA
DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}$, $I_C = 0.5\text{A}$	82	-	390	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}$, $I_B = 20\text{mA}$	-	-	0.4	V
Transition Frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = -50\text{mA}$, $f = 100\text{MHz}$	-	100	-	MHz
Output Capacitance	C_{OBO}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	20	-	pF

Classification of h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

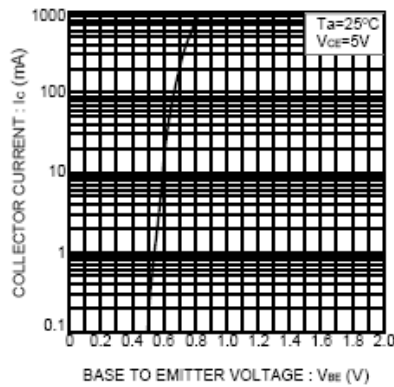


Fig.1 Grounded emitter propagation characteristics

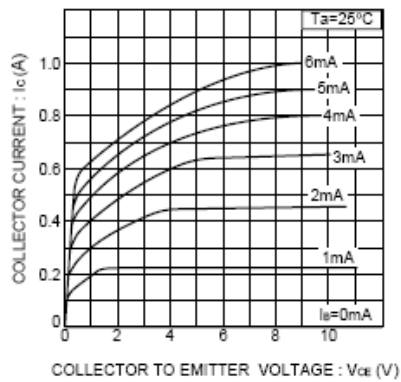


Fig.2 Grounded emitter output characteristics

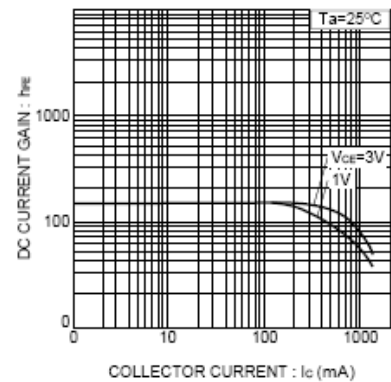


Fig.3 DC current gain vs. collector current

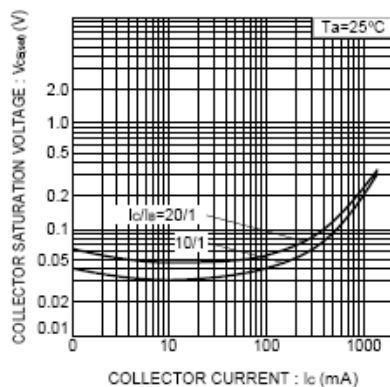


Fig.4 Collector-emitter saturation voltage vs. collector current

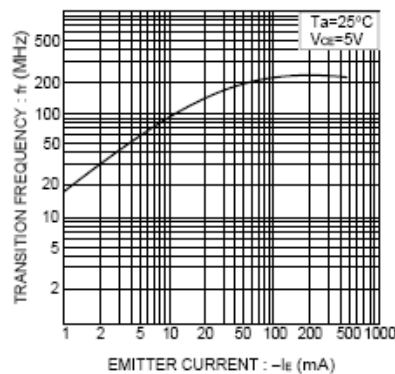


Fig.5 Gain bandwidth product vs. emitter current

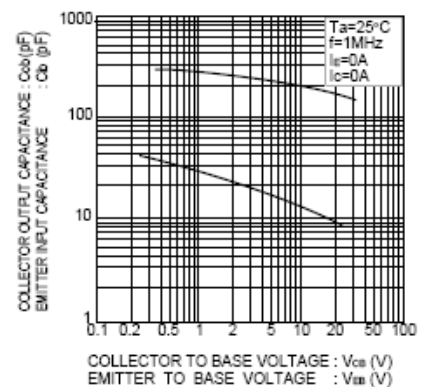


Fig.6 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

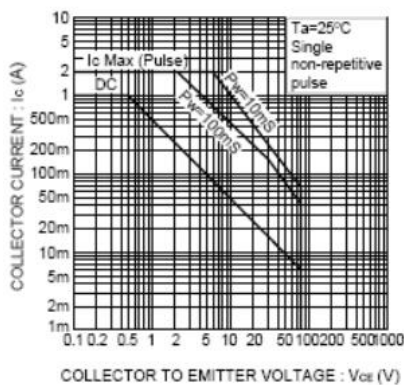
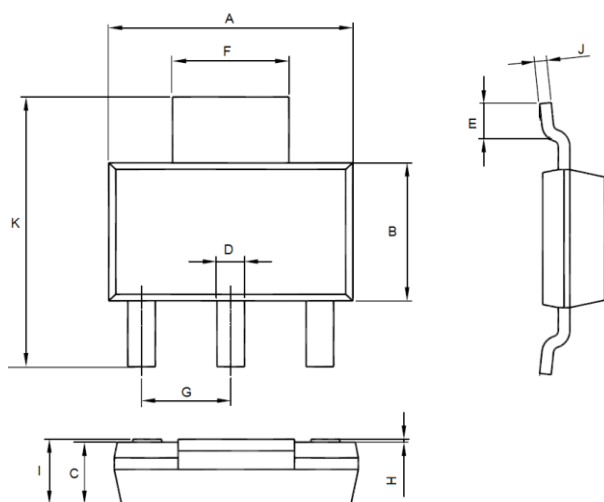


Fig.7 Safe operating area

Package Outline Dimensions (Unit: mm)



SOT-223		
Dimension	Min.	Max.
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30

Mounting Pad Layout (Unit: mm)

SOT-223

