

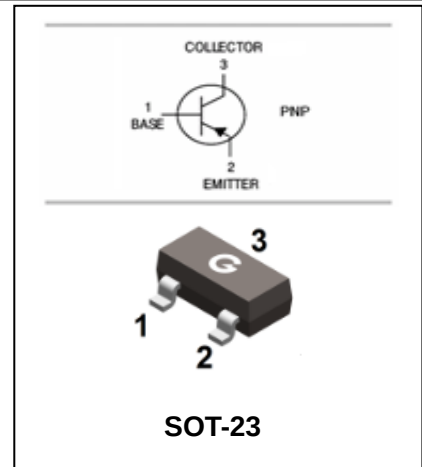
Low-frequency Transistor

T2SB1198

FEATURES

- Low $V_{CE(sat)}$
 $V_{CE(sat)} = -0.2V$ (Typ.)
 $(I_C / I_B = -0.5A / -50mA)$
- High breakdown voltage
 $BV_{CEO} = -80V$
- Complements the T2SD1782
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



APPLICATIONS

- Telephone and professional communication equipment
- Other switching applications

ORDERING INFORMATION

Type No.	Marking	Package Code
T2SB1198-Q	AKQ	SOT-23
T2SB1198-R	AKR	SOT-23

MAXIMUM RATING @ $T_A = 25^\circ C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current DC	-0.5	A
P_C	Collector Dissipation	0.2	W
T_J	Junction Temperature	-55 ~ +150	$^\circ C$
T_{STG}	Storage Temperature	-55 ~ +150	$^\circ C$

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ELECTRICAL CHARACTERISTICS @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu\text{A}, I_E = 0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -2\text{mA}, I_B = 0$	-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}	$V_{CB} = -50\text{V}, I_E = 0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE} = -3\text{V}, I_C = -100\text{mA}$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-0.2	-0.5	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_E = 50\text{mA}$ $f = 100\text{MHz}$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		11		pF

CLASSIFICATION OF h_{FE}

Rank	Q	R
Range	120-270	180-390
Marking	AKQ	AKR

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TYPICAL CHARACTERISTICS @ $T_A = 25^\circ\text{C}$ unless otherwise specified

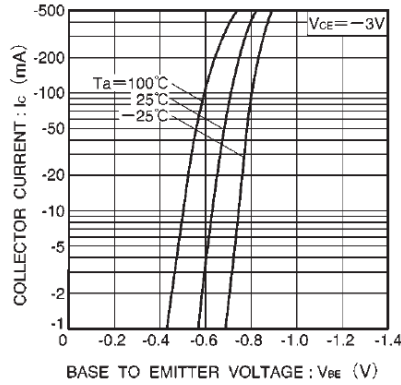


Fig.1 Grounded emitter propagation characteristics

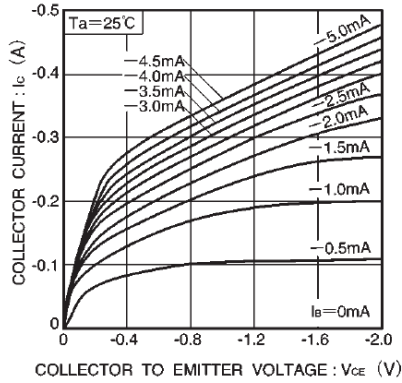


Fig.2 Grounded emitter output characteristics

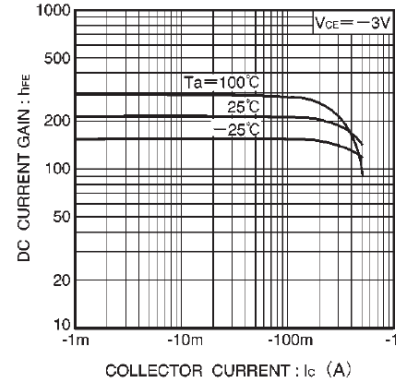


Fig.3 DC current gain vs. collector current

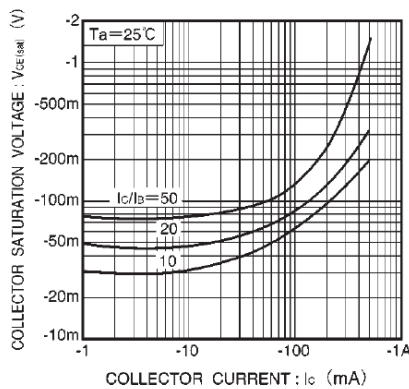


Fig.4 Collector-emitter saturation voltage vs. collector current (I)

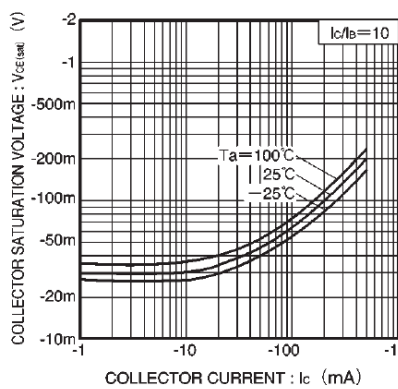


Fig.5 Collector-emitter saturation voltage vs. collector current (II)

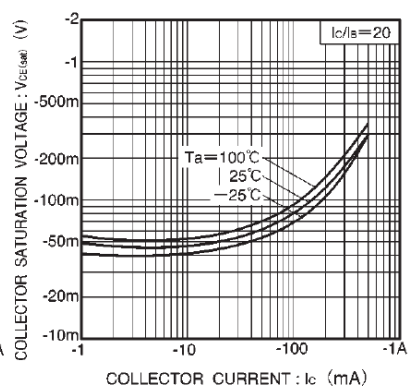


Fig.6 Collector-emitter saturation voltage vs. collector current (III)

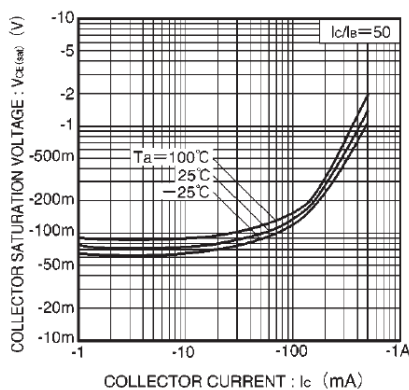


Fig.7 Collector-emitter saturation voltage vs. collector current (IV)

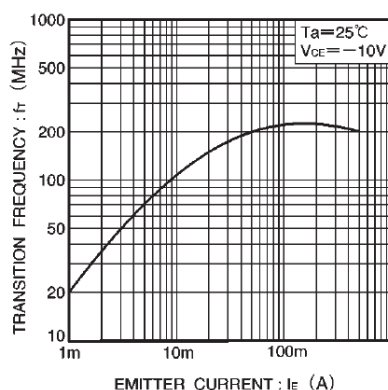


Fig.8 Gain bandwidth product vs. emitter current

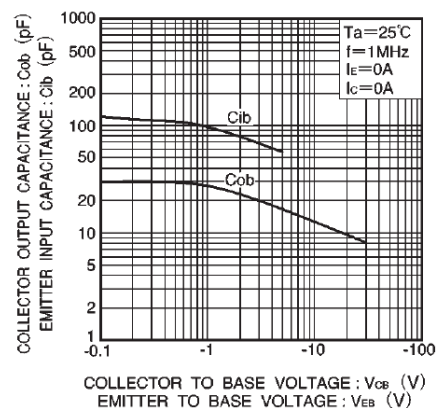


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

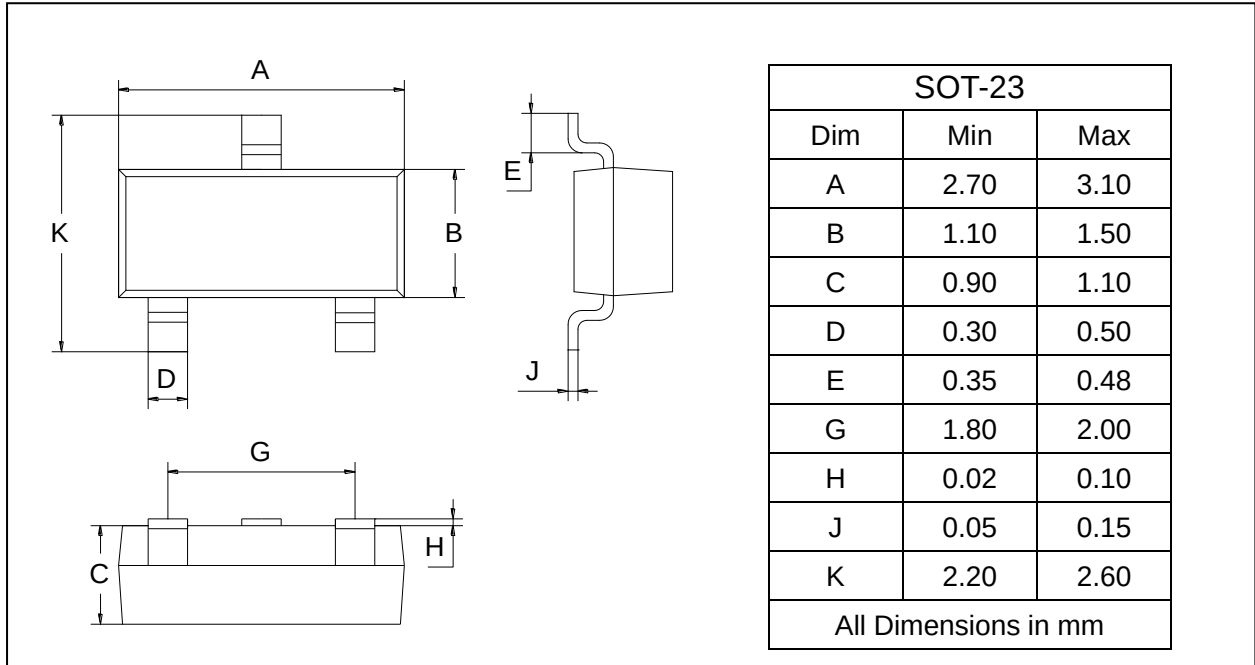
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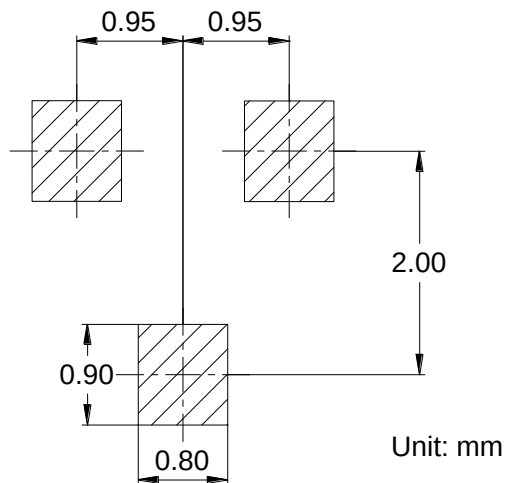
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
T2SB1198	SOT-23	3000 pcs / Tape & Reel