

Silicon Epitaxial Planar Transistor

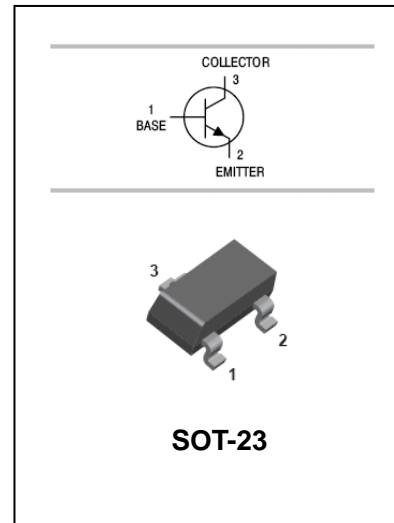
2SC1815

FEATURES

- High voltage and high current
 $V_{CE0}=50V(\text{Min}), I_C=150mA(\text{Max})$.
- Excellent h_{FE} linearity : $h_{FE(2)}=100$ (Typ) at $V_{CE}=6V, I_C=150mA$
 $h_{FE}(I_C=0.1mA) / h_{FE}(I_C=2mA)=0.95(\text{Typ})$
- Low noise.
- Complementary to 2SA1015.



Lead-free



APPLICATIONS

- Audio frequency general purpose amplifier applications.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SC1815	HF	SOT-23

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	150	mA
I_B	Base Current	50	mA
P_C	Collector Dissipation	400	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_C=0.1mA, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=50V, I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=6V, I_C=2mA$	130		400	
		$V_{CE}=6V, I_C=150mA$	25	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$		0.1	0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$			1	V
Transition frequency	f_T	$V_{CE}=10V, I_C=1mA$ $f=30MHz$	80			MHz

CLASSIFICATION OF $h_{FE(1)}$

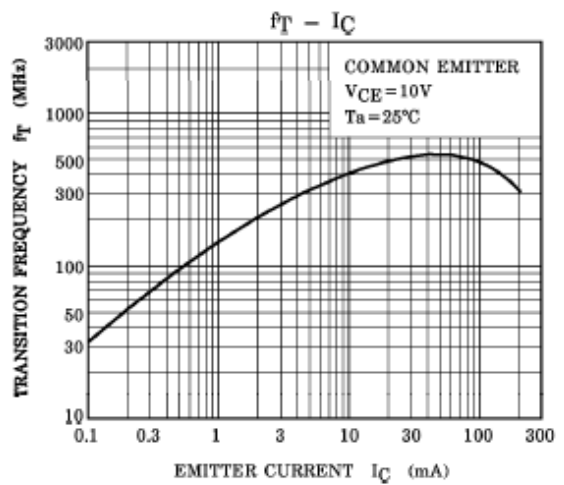
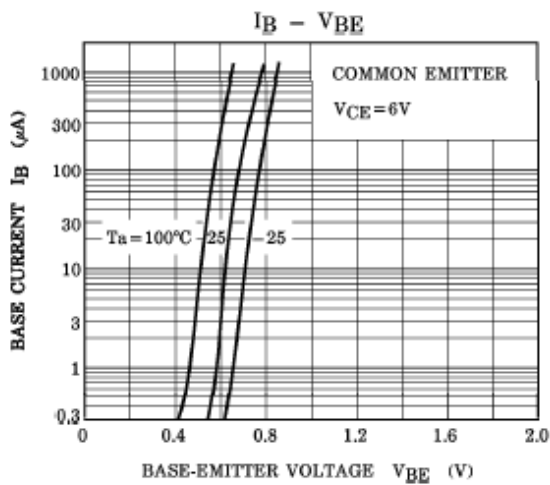
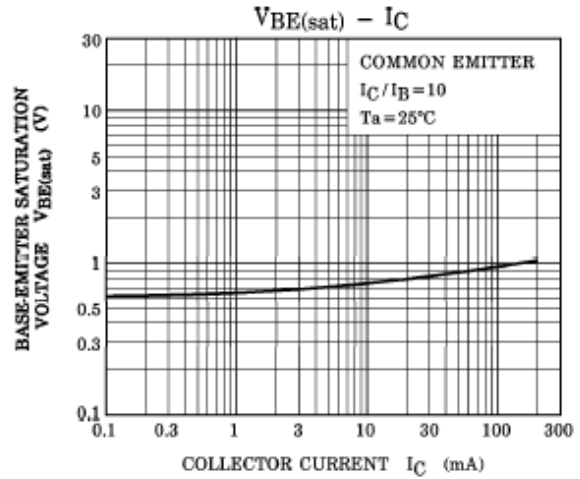
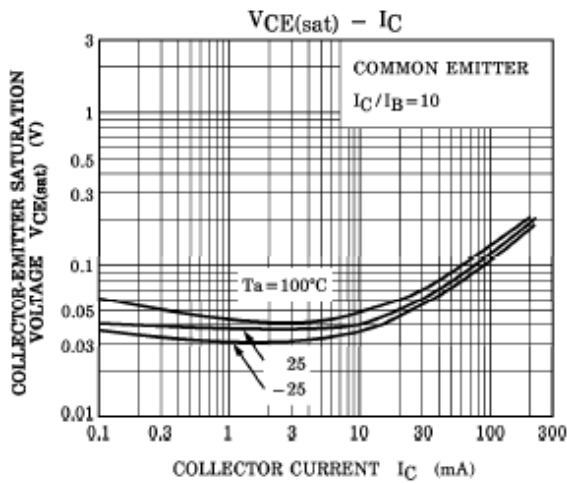
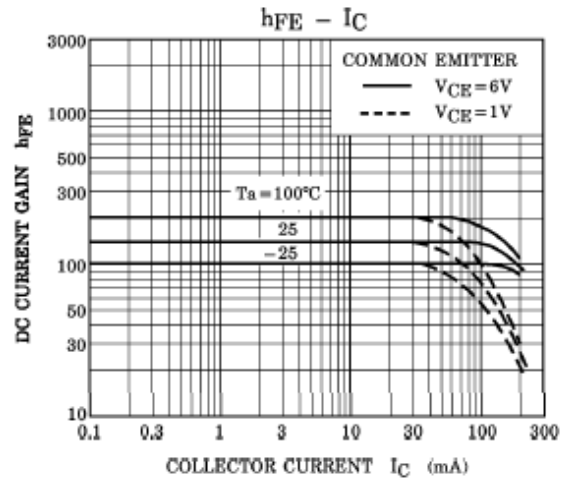
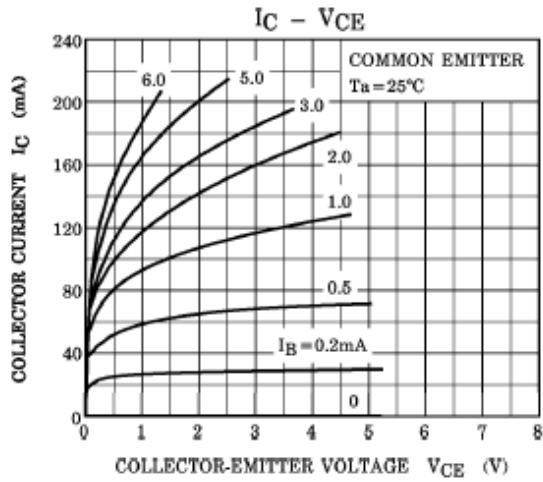
Rank	L	H
Range	130-200	200-400



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





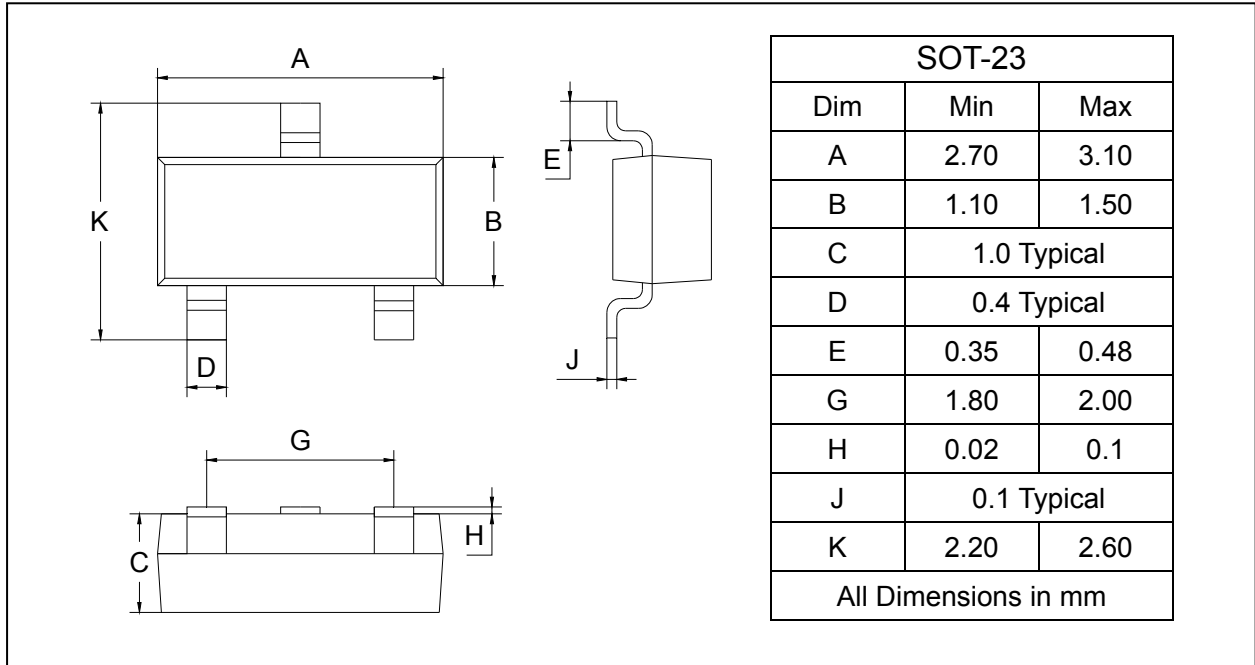
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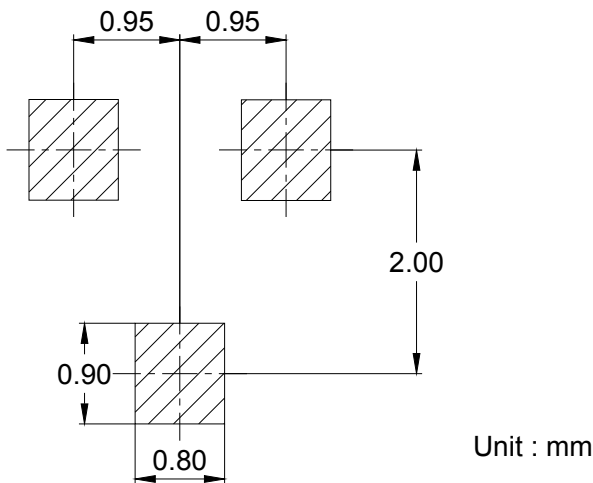
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SC1815	SOT-23	3000/Tape&Reel