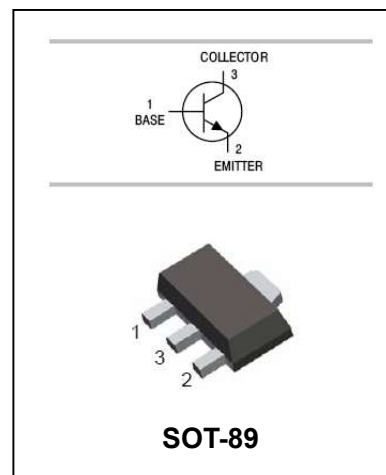


NPN Transistors

FEATURES

- Low $V_{CE(sat)}$.
- Excellent DC current gain characteristics.
- Complements the 2SB1386



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	5	A
P_C	Collector Dissipation	500	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=40V, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.5	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=0.5A$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.1A$		0.25	1.0	V
Transition frequency	f_T	$V_{CE}=6V, I_C=50mA,$ $f=100MHz$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=20V, I_E=0, f=1MHz$		30		pF

CLASSIFICATION OF h_{FE}

Rank	Q	R
Range	120-270	180-390
MARKING	AHQ	AHR

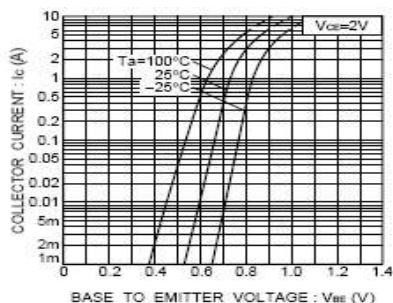
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified


Fig.1 Grounded emitter propagation characteristics

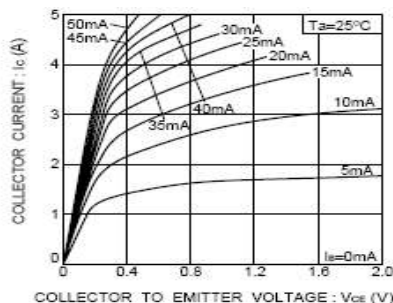


Fig.2 Grounded emitter output characteristics

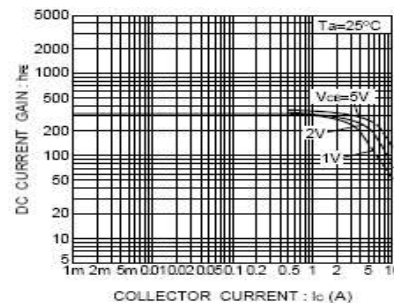


Fig.3 DC current gain vs. collector current (I)

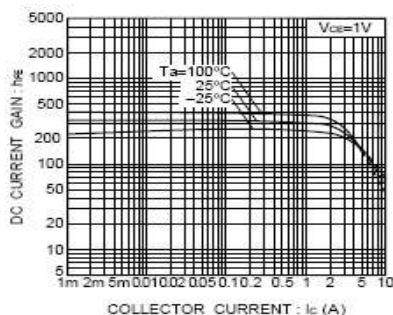


Fig.4 DC current gain vs. collector current (II)

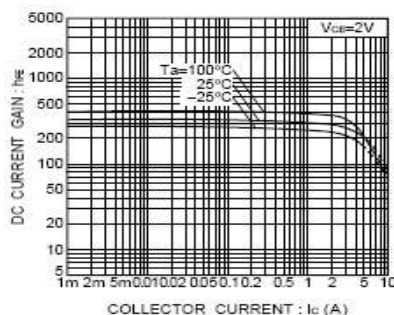


Fig.5 DC current gain vs. collector current (III)

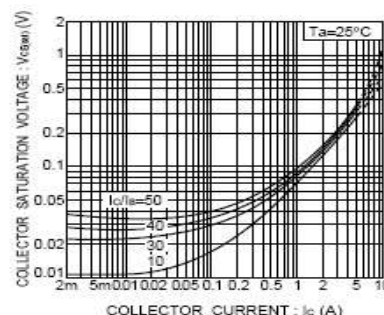
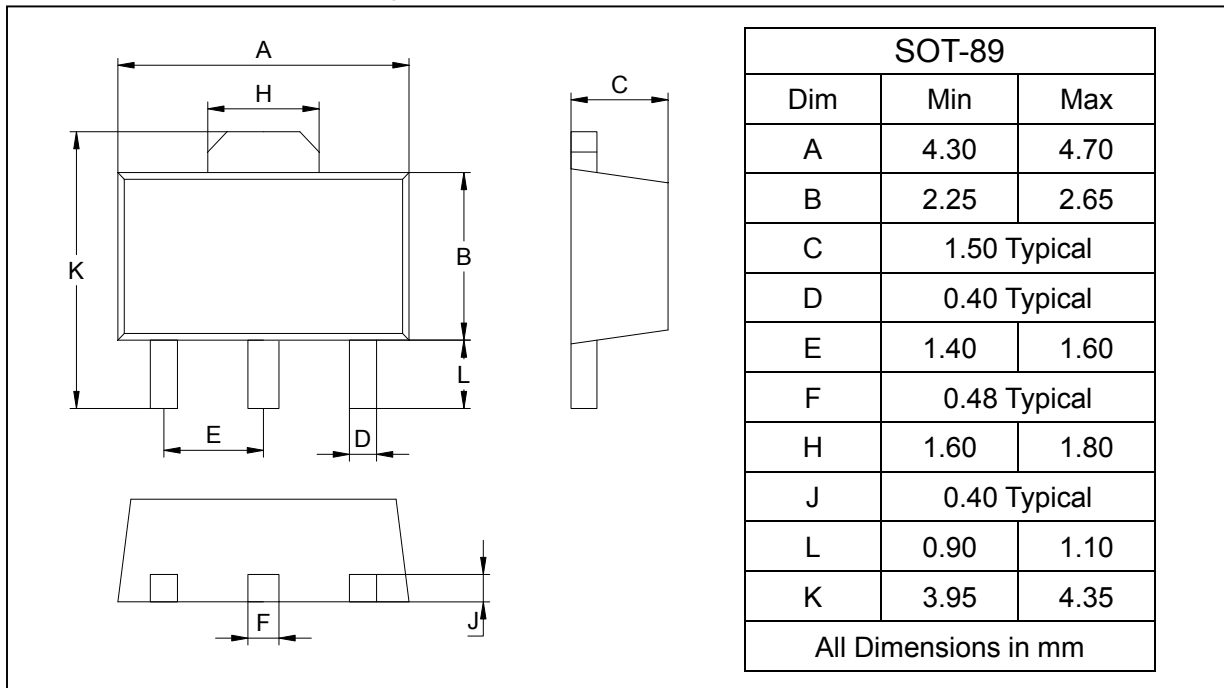


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

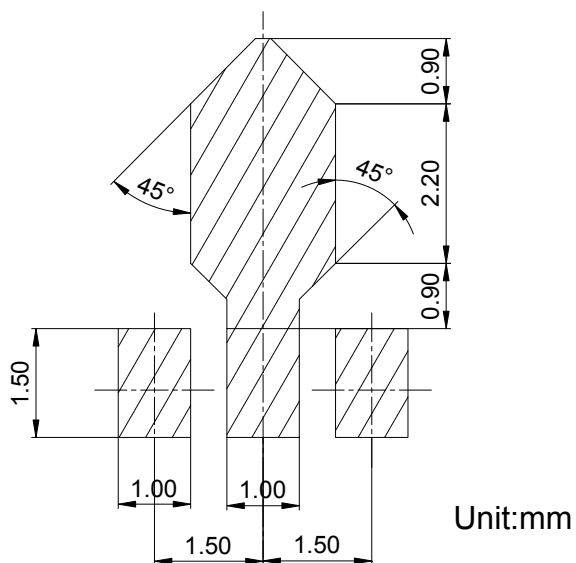
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD2098	SOT-89	1000/Tape&Reel

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