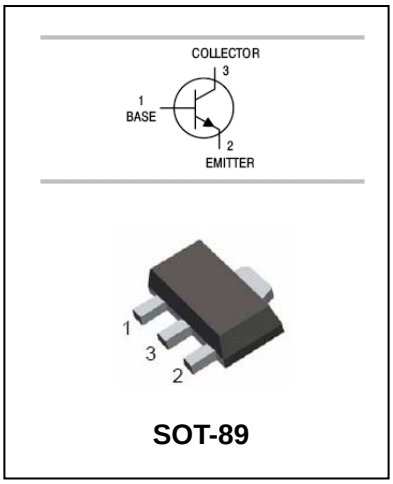
Low $V_{CE(sat)}$ Transistor **2SD2098**

FEATURES

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

Lead-free



SOT-89

ORDERING INFORMATION

Type No.	Marking	Package Code
2SD2098	AHQ/AHR	SOT-89

MAXIMUM RATING @ Ta=25℃ 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	℃

Low $V_{CE(sat)}$ Transistor **2SD2098**

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA,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=50μA,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℃ unless otherwise specified

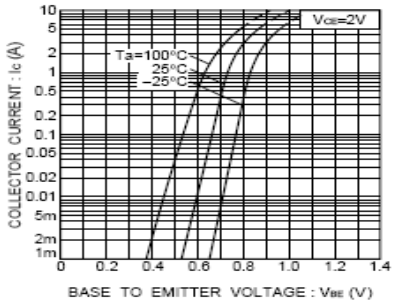


Fig.1 Grounded emitter propagation characteristics

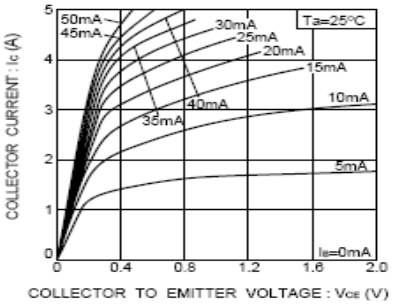


Fig.2 Grounded emitter output characteristics

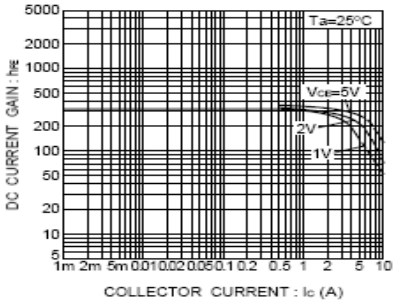


Fig.3 DC current gain vs. collector current (I)

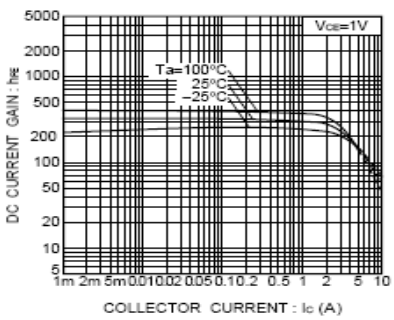


Fig.4 DC current gain vs. collector current (II)

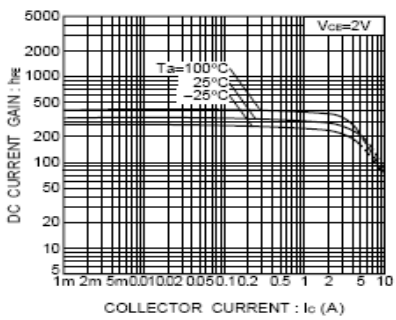


Fig.5 DC current gain vs. collector current (III)

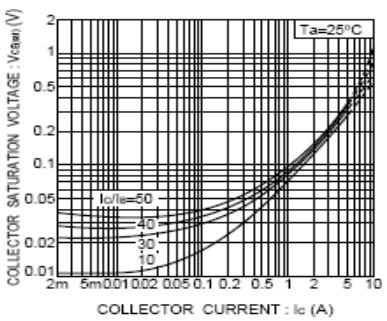
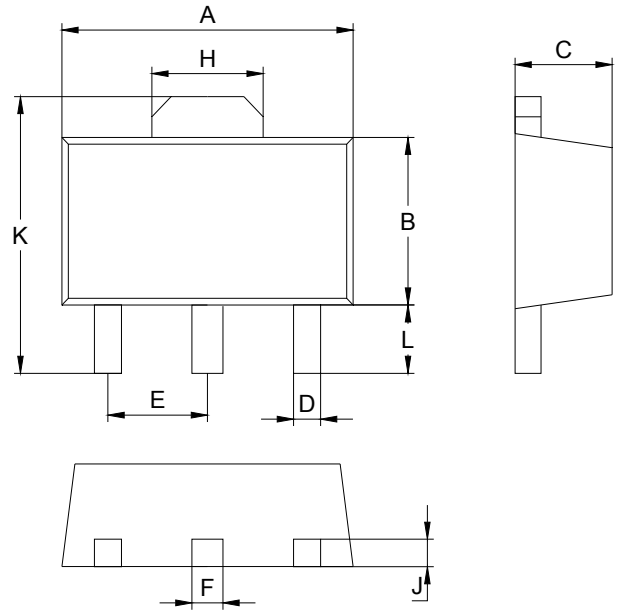


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

Low $V_{CE(sat)}$ Transistor **2SD2098**

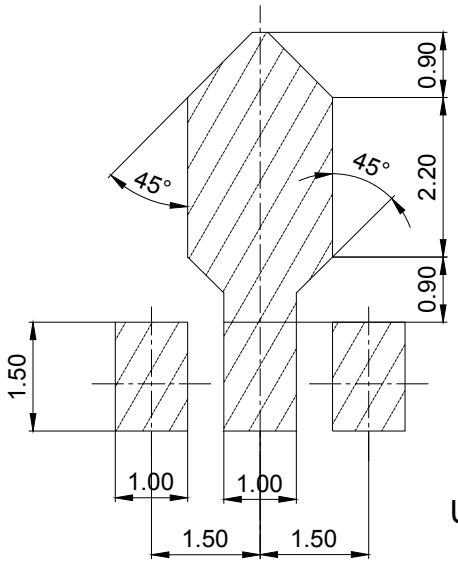
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

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