



NPN SILICON EPITAXIAL TRANSISTOR

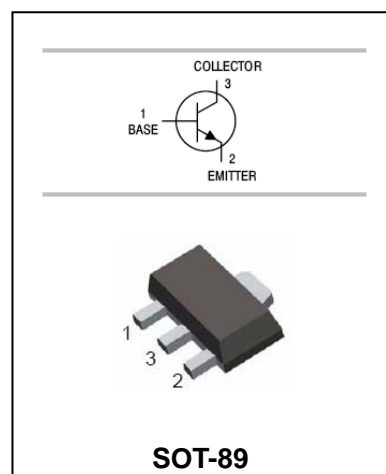
2SD1005

FEATURES

- High Collector to Base Voltage.
- Excellent DC Current Gain Linearity.
- Complements to PNP type 2SB804.



Lead-free



ORDERING INFORMATION

Type No.	Marking	Package Code
2SD1005	BW/BV/BU	SOT-89

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
P_C	Collector power dissipation	500	mW
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 to +150	°C



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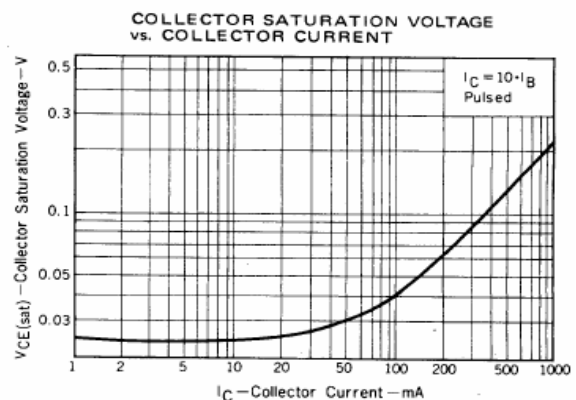
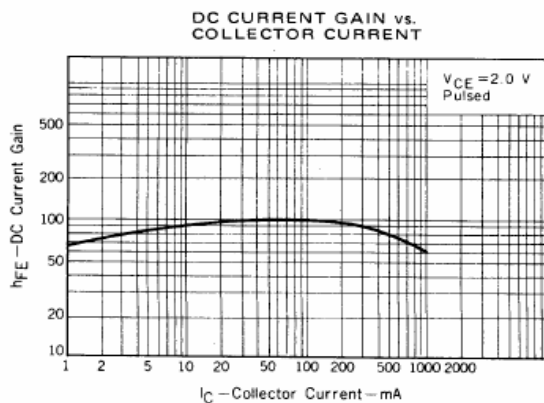
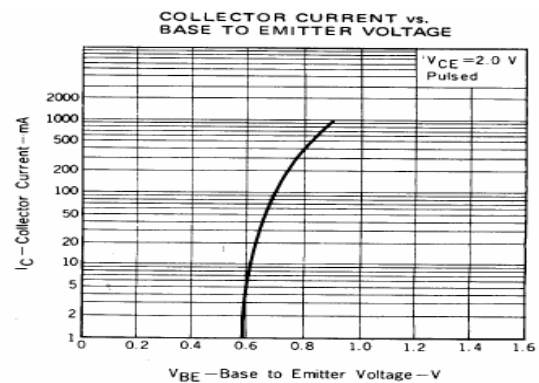
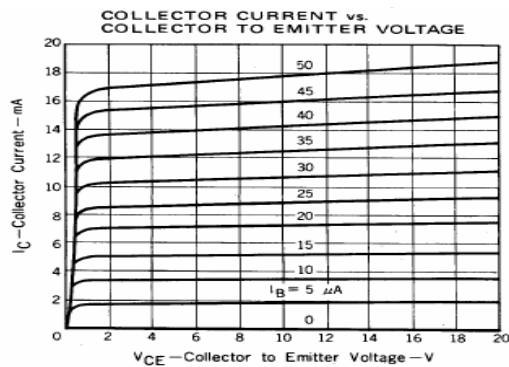
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector cut-off current	I_{CBO}	$V_{CB}=100V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=500mA/50mA$		0.15	0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C/I_B=500mA/50mA$		0.9	1.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=10V, I_C=10mA$	0.6	0.63	0.7	V
DC current gain(note)	h_{FE}	$V_{CE}=2V, I_C=100mA$	90	200	400	
		$V_{CE}=2V, I_C=500mA$	25	80		
Current gain bandwidth product	f_T	$V_{CE}=5V, I_E=10mA$		160		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz, I_E=0A$		12		pF

CLASSIFICATION OF h_{FE2}

RANGE	90-180	135-270	200-400
MARKING	BW	BV	BU

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



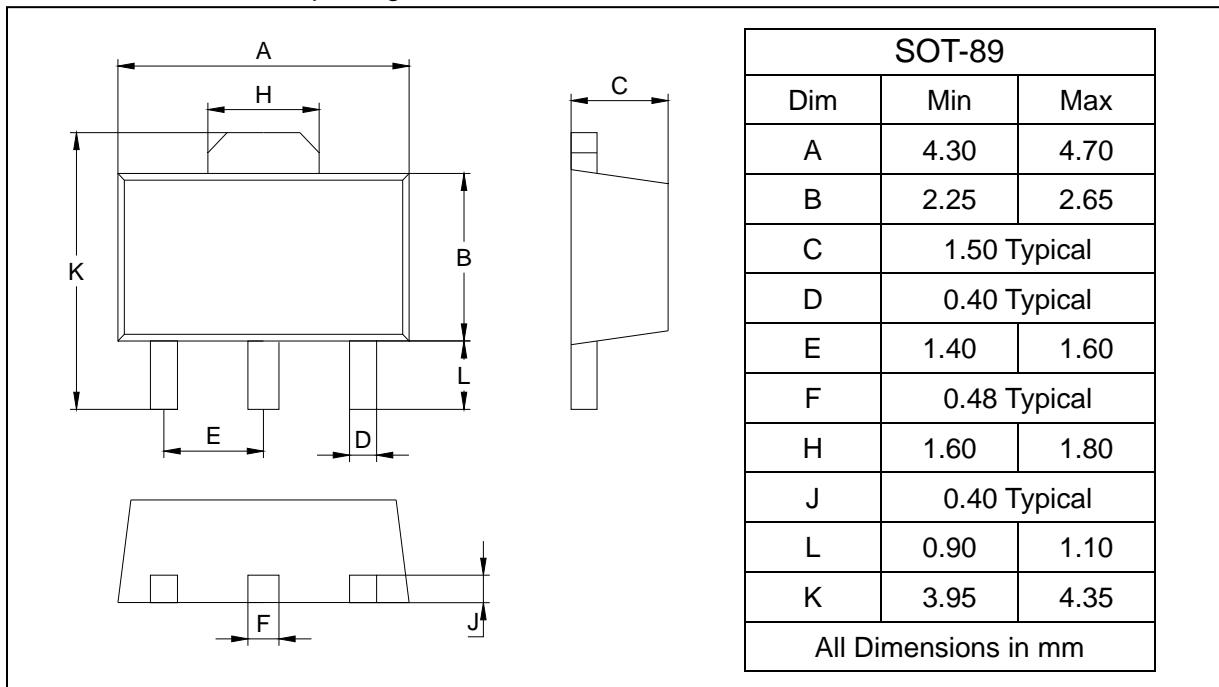
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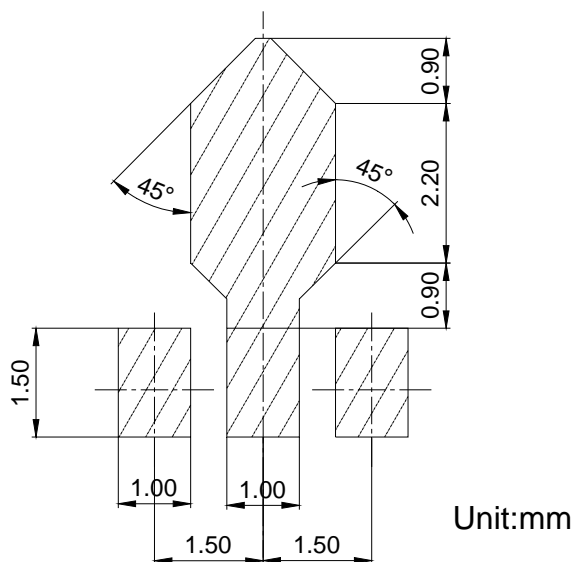
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD1005	SOT-89	1000/Tape&Reel