

## LOW VOLTAGE HIGH CURRENT TRANSISTOR **2SD965**

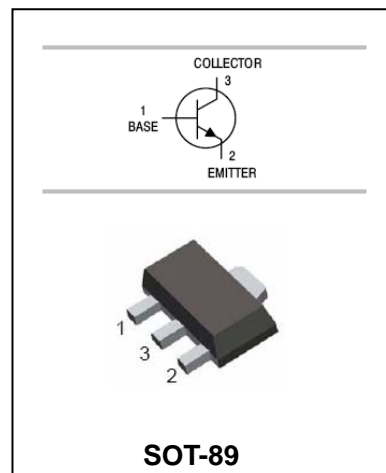
### FEATURES

- Collector current up to 5A
- Collector-Emitter voltage up to 20V



### APPLICATIONS

- Audio amplifier
- Flash unit of camera
- Switching circuit



### ORDERING INFORMATION

Type No.	Marking	Package Code
2SD965	D965	SOT-89

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	20	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current	5	A
P <sub>C</sub>	Collector power dissipation	750	mW
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-65 to +150	°C



## LOW VOLTAGE HIGH CURRENT TRANSISTOR 2SD965

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=10V, I_E=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7V, I_C=0$			0.1	$\mu A$
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=3A/0.1A$			1	V
DC current gain(note)	$h_{FE}$	$V_{CE}=2V, I_C=1mA$		200		
		$V_{CE}=2V, I_C=0.5A$	230		1000	
		$V_{CE}=2V, I_C=0.1A$	150			
Current gain bandwidth product	$f_T$	$V_{CE}=6V, I_C=50mA$		150		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=20V, f=1MHz, I_E=0A$			50	pF

### CLASSIFICATION OF $h_{FE2}$

RANK	Q	R	S	T
RANGE	230-380	340-600	560-800	600-1000

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Fig.1 Static characteristics

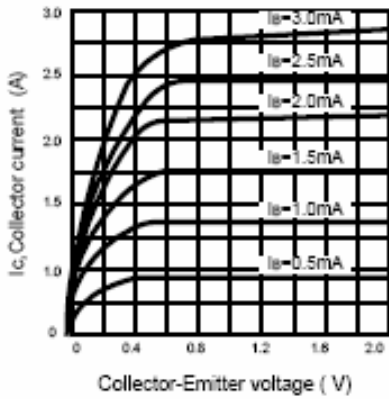


Fig.2 DC current Gain

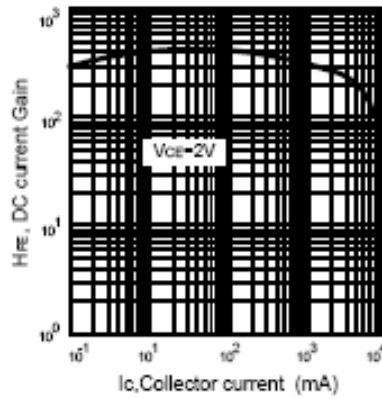


Fig.3 Base-Emitter on Voltage

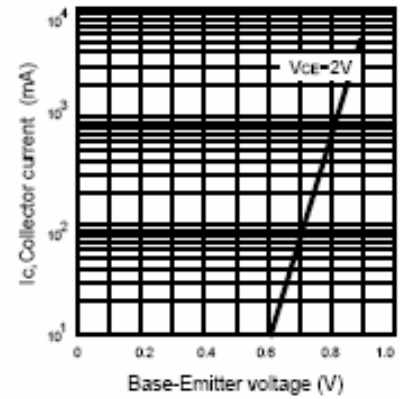


Fig.4 Saturation voltage

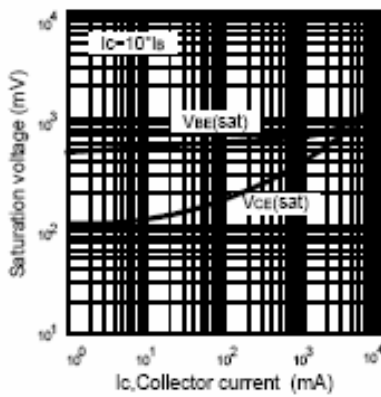


Fig.5 Current gain-bandwidth product

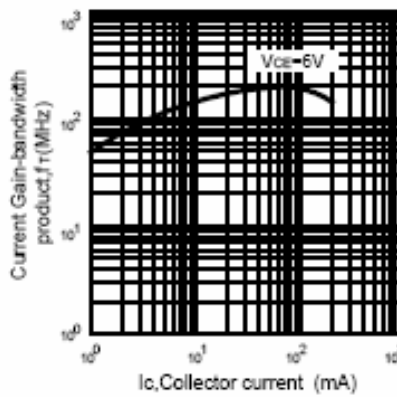
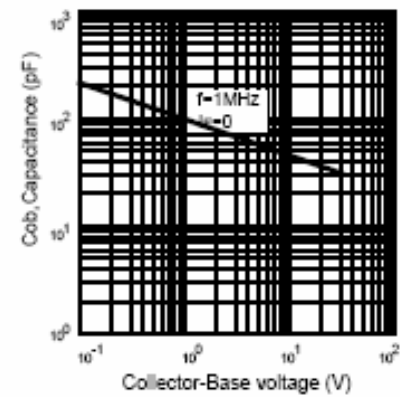


Fig.6 Collector output Capacitance



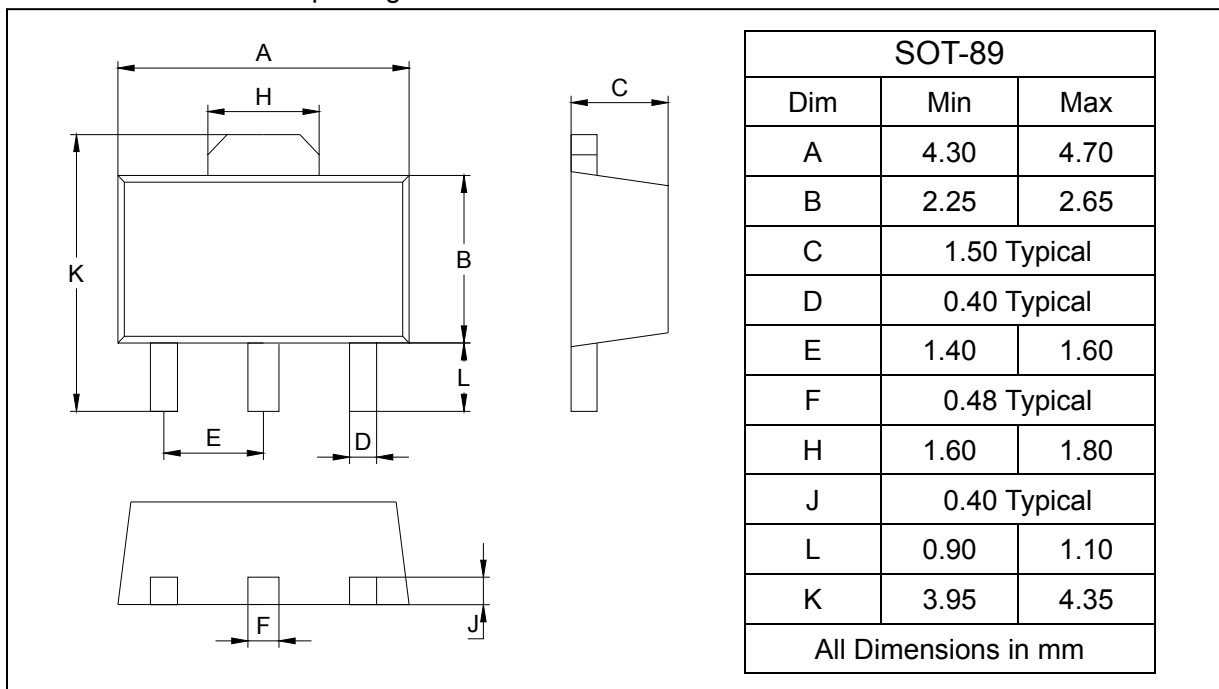


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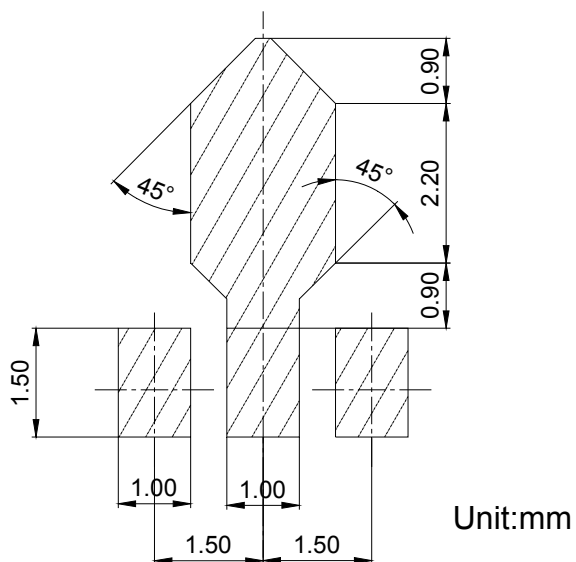
## PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

Device	Package	Shipping
2SD965	SOT-89	1000/Tape&Reel