

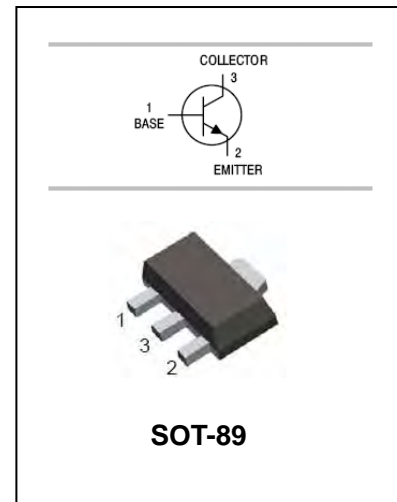
## NPN Silicon Epitaxial Planar Transistor

## FEATURES

- Collector-Emitter voltage:  $V_{CEO}=300V$ .
- Collector current up to 500mA.
- Complement to A92.
- Small flat package.
- Power dissipation:  $P_d(\max)=500mW$ .



Lead-free



## APPLICATIONS

- High voltage transistor.

## ORDERING INFORMATION

Type No.	Marking	Package Code
A42	A42	SOT-89

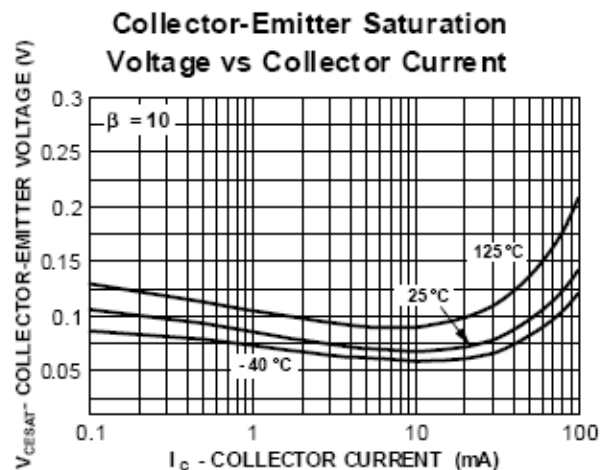
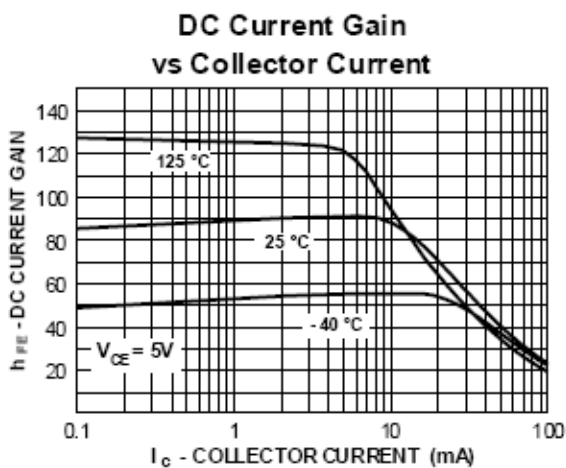
MAXIMUM RATING @  $T_a=25^\circ C$  unless otherwise specified

Symbol	Parameter	Value	UNIT
$V_{CBO}$	collector-base voltage	310	V
$V_{CEO}$	collector-emitter voltage	305	V
$V_{EBO}$	emitter-base voltage	5	V
$I_C$	collector current (DC)	0.5	A
$P_C$	Collector dissipation	0.5	W
$T_j, T_{stg}$	junction and storage temperature	-55-150	$^\circ C$

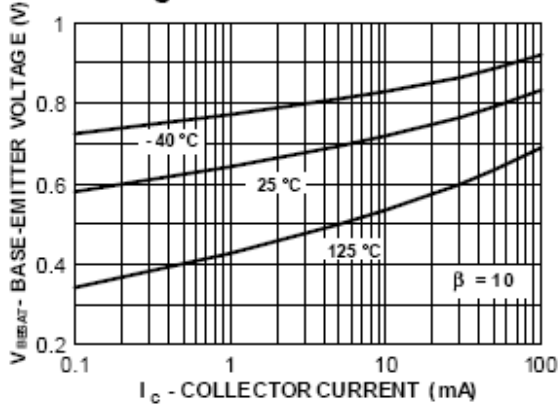
## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	310	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1.0mA, I_B=0$	305	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	5	-	V
$I_{CBO}$	collector cut-off current	$I_E = 0, V_{CB} = 200V$	-	0.25	$\mu A$
$I_{EBO}$	emitter cut-off current	$I_C = 0, V_{EB} = 5V$	-	0.1	$\mu A$
$h_{FE}$	DC current gain	$V_{CE} = 10V; I_C=1mA$ $V_{CE} = 10V; I_C = 10mA$ $V_{CE} = 10V; I_C = 30mA$	60 100 75	- 300 -	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = 20mA; I_B = 2mA$	-	0.2	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = 20mA; I_B = 2mA$	-	0.9	V
$f_T$	Transition frequency	$V_{CE}=20V, I_C=10mA, f=30MHz$	50		MHz

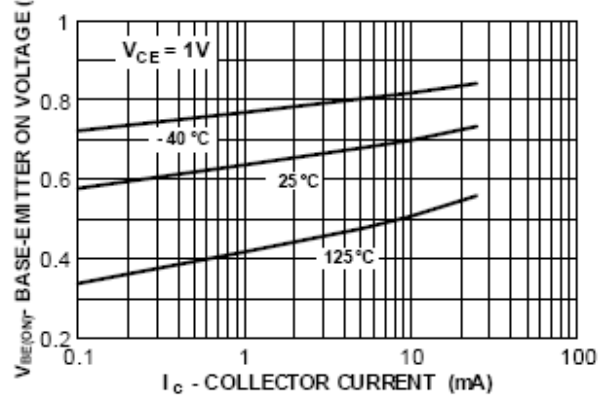
## TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



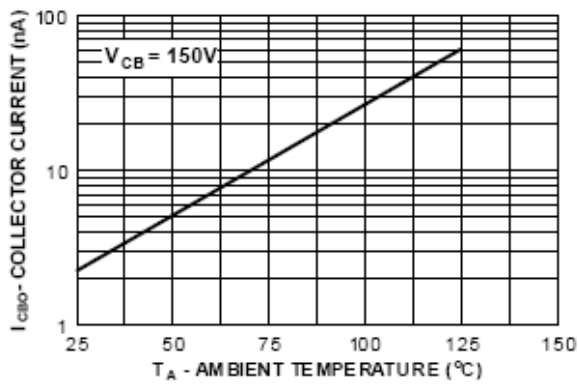
**Base-Emitter Saturation Voltage vs Collector Current**



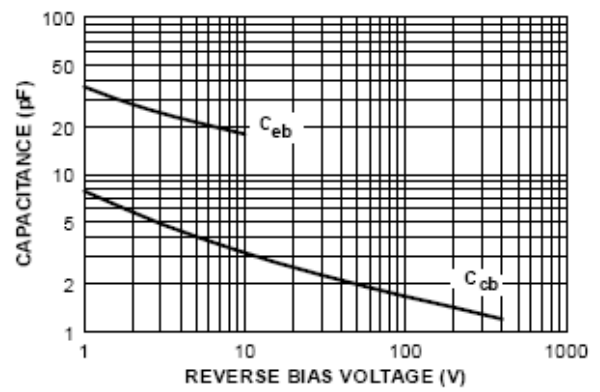
**Base-Emitter ON Voltage vs Collector Current**



**Collector-Cutoff Current vs Ambient Temperature**



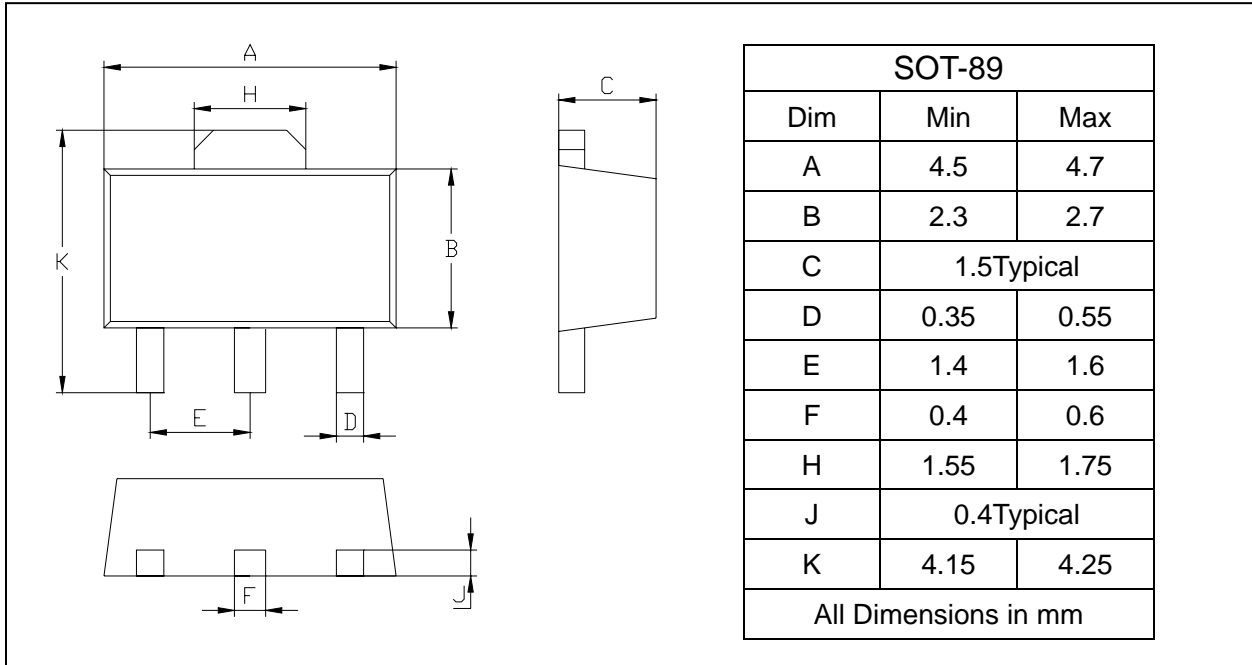
**Collector-Base and Emitter-Base Capacitance vs Reverse Bias Voltage**



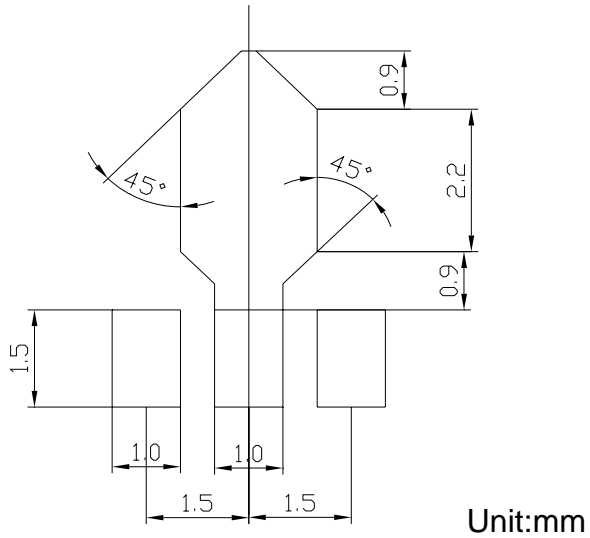
## PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

Device	Package	Shipping
A42	SOT-89	1000/Tape&Reel