

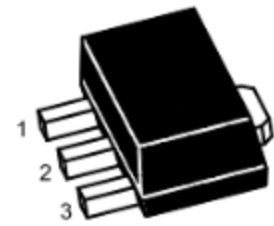
### TRANSISTOR

(NPN)

#### FEATURES

- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary to MPSA92U (PNP)

Marking: A42



1.Base 2.Collector 3.Emitter  
SOT-89 Plastic Package

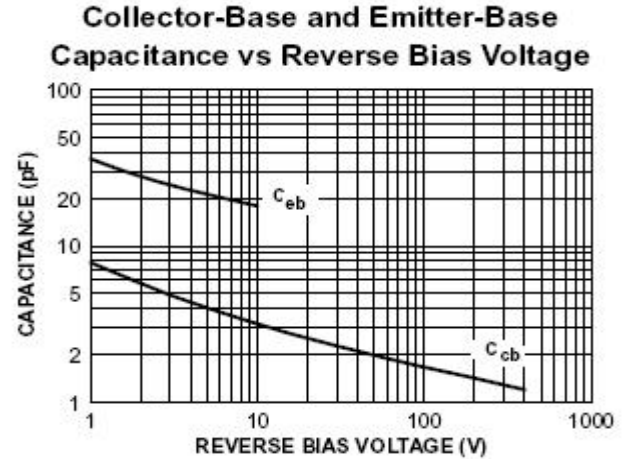
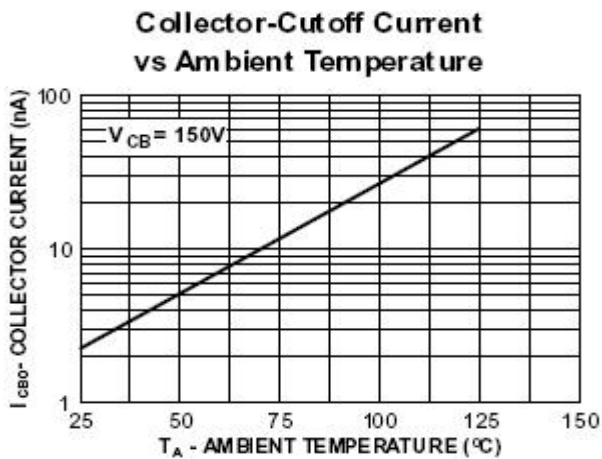
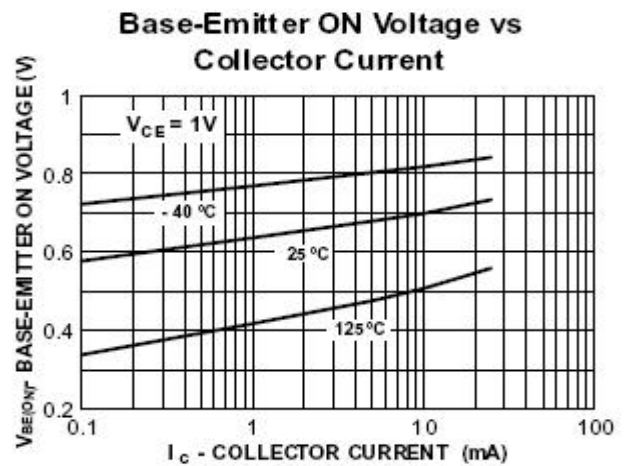
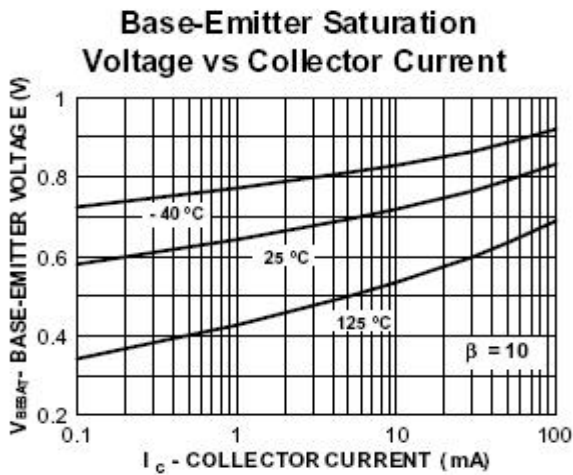
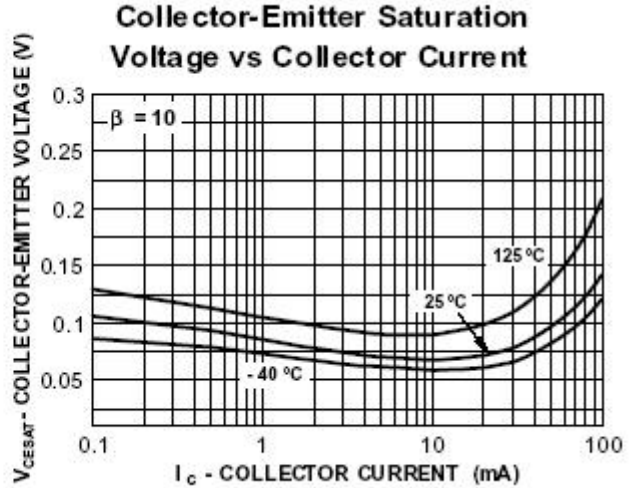
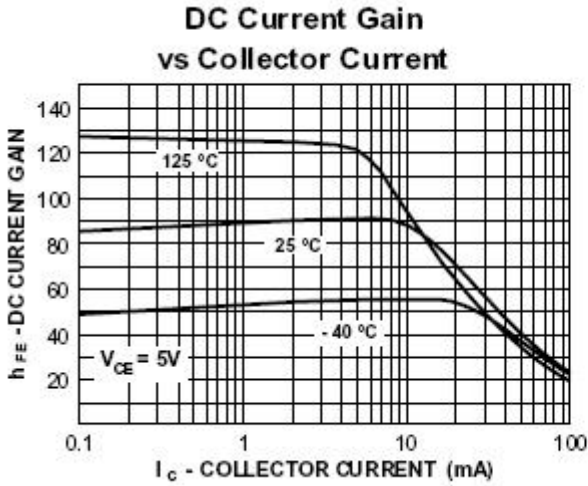
#### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	300	V
$V_{CEO}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	0.3	A
$P_C$	Collector Power dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	357	$^{\circ}\text{C}/\text{mW}$
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55to +150	$^{\circ}\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

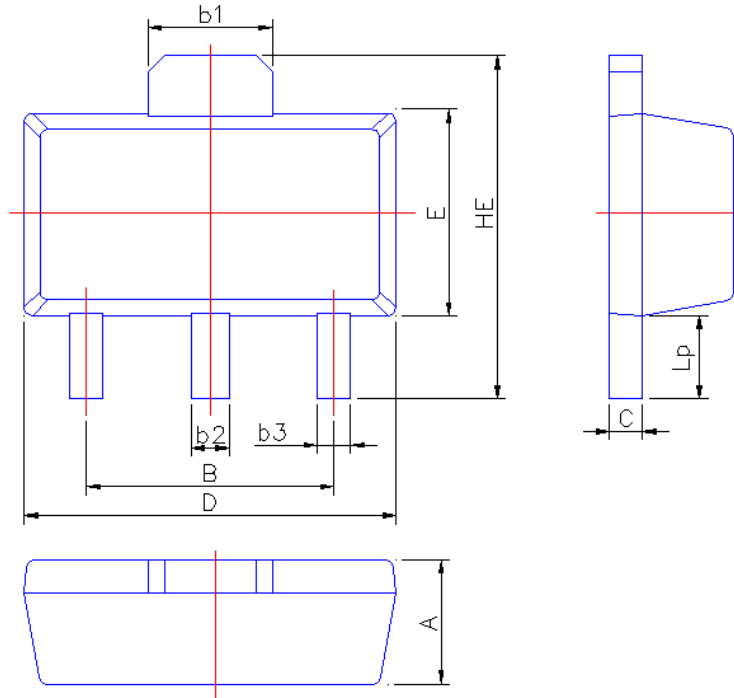
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	300		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	300		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=200\text{V}, I_E=0$		0.25	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	60		
	$h_{FE(2)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100	200	
	$h_{FE(3)}$	$V_{CE}=10\text{V}, I_C=30\text{mA}$	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$		0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$		0.9	V
Transition frequency	$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	50		MHz

### Typical Characteristics





**SOT-89 PACKAGE OUTLINE**



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	2.95	3.05
b1	1.45	1.70
b2	0.45	0.56
b3	0.35	0.50
C	0.35	0.50
D	4.40	4.60
E	2.35	2.55
HE	3.90	4.40
Lp	0.90	1.10