

## TO-92 Plastic-Encapsulate Transistors

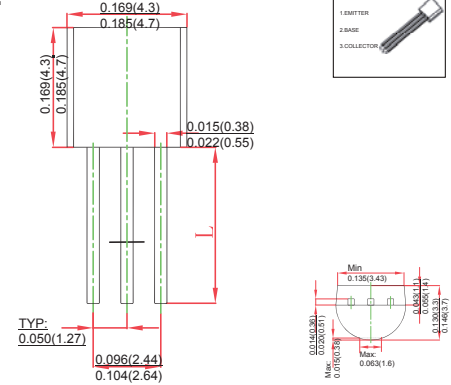
### FEATURES

- High Current Gain Bandwidth Product
- TRANSISTOR (NPN)

### MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any

### TO-92



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	25	V
$V_{CE0}$	Collector-Emitter Voltage	18	V
$V_{EB0}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current -Continuous	0.05	A
$P_D$	Collector Power Dissipation	400	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	312.5	°C /W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55 ~+150	°C

### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
S9018	TO-92	Bulk	1000pcs/Bag
S9018-TA	TO-92	Tape	2000pcs/Box

## Electrical Specification( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1\text{mA}, I_B=0$	18			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	4			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			0.1	nA
Collector cut-off current	$I_{CEO}$	$V_{CE}=15\text{V}, I_B=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	28		270	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			1.42	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=50\text{mA}, f=400\text{MHz}$		800		MHz

### CLASSIFICATION OF $h_{FE}$

RANK	D	F	H	I	J
RANGE	28-45	39-60	54-80	72-108	-146 1 -198 -270

### MARKING: S9018

# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

