

# SOT-89-3L Plastic-Encapsulate Transistors

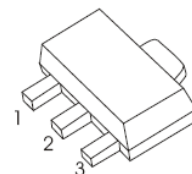
## 2SA1661 TRANSISTOR (PNP)

### FEATURES

- Small Flat Package
- High Current Application
- High Voltage
- High Transition Frequency

### SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Unit
$V_{\text{CBO}}$	Collector-Base Voltage	-120	V
$V_{\text{CEO}}$	Collector-Emitter Voltage	-120	V
$V_{\text{EBO}}$	Emitter-Base Voltage	-5	V
$I_{\text{C}}$	Collector Current	-0.8	A
$P_{\text{C}}$	Collector Power Dissipation	500	mW
$R_{\theta\text{JA}}$	Thermal Resistance From Junction To Ambient	250	$^{\circ}\text{C}/\text{W}$
$T_{\text{j}}$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{\text{stg}}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}} = -1\text{mA}, I_{\text{E}} = 0$	-120			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}} = -10\text{mA}, I_{\text{B}} = 0$	-120			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}} = -1\text{mA}, I_{\text{C}} = 0$	-5			V
Collector cut-off current	$I_{\text{CBO}}$	$V_{\text{CB}} = -120\text{V}, I_{\text{E}} = 0$			-100	nA
Emitter cut-off current	$I_{\text{EBO}}$	$V_{\text{EB}} = -5\text{V}, I_{\text{C}} = 0$			-100	nA
DC current gain	$h_{\text{FE}}$	$V_{\text{CE}} = -5\text{V}, I_{\text{C}} = -100\text{mA}$	80		240	
Collector-emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	$I_{\text{C}} = -500\text{mA}, I_{\text{B}} = -50\text{mA}$			-1	V
Base-emitter voltage	$V_{\text{BE}}$	$V_{\text{CE}} = -5\text{V}, I_{\text{C}} = -500\text{mA}$			-1	V
Collector output capacitance	$C_{\text{ob}}$	$V_{\text{CB}} = -10\text{V}, I_{\text{E}} = 0, f = 1\text{MHz}$			30	pF
Transition frequency	$f_{\text{T}}$	$V_{\text{CE}} = -5\text{V}, I_{\text{C}} = -0.1\text{A}, f = 30\text{MHz}$		120		MHz

### CLASSIFICATION OF $h_{\text{FE}}$

RANK	O	Y
RANGE	80 - 160	120 - 240
MARKING	DO.	DY.