

## TO-92MOD Plastic-Encapsulate Transistors

### 2SA965 TRANSISTOR (PNP)

#### FEATURES

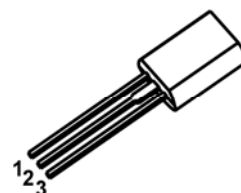
- Complementary to 2SC2235
- Power Amplifier Applications

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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-120	V
$V_{CEO}$	Collector-Emitter Voltage	-120	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-0.8	A
$P_C$	Collector Power Dissipation	900	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	139	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

#### TO – 92MOD

1. EMITTER
2. COLLECTOR
3. BASE



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-120			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-120\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=-5\text{V}, I_C=100\text{mA}$	80		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=-5\text{V}, I_C=-0.5\text{A}$			-1	V
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$			40	pF
Transition frequency	$f_T$	$V_{CE}=-5\text{V}, I_C=-100\text{mA}$		120		MHz

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

RANK	O	Y
RANGE	80-160	120-240