



TO-92MOD Plastic-Encapsulate Transistors

2SA965 TRANSISTOR (PNP)

FEATURES

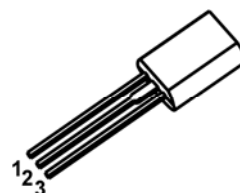
- Complementary to 2SC2235
- Power Amplifier Applications

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
$R_{\theta\text{JA}}$	Thermal Resistance From Junction To Ambient	139	$^{\circ}\text{C/W}$
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	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=-1\text{mA}, I_{\text{E}}=0$	-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_{CBO}	$V_{\text{CB}}=-120\text{V}, I_{\text{E}}=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=-5\text{V}, I_{\text{C}}=0$			-0.1	μA
DC current gain	h_{FE}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=100\text{mA}$	80		240	
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}}=-500\text{mA}, I_{\text{B}}=-50\text{mA}$			-1	V
Base-emitter voltage	V_{BE}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-0.5\text{A}$			-1	V
Collector output capacitance	C_{ob}	$V_{\text{CB}}=-10\text{V}, I_{\text{E}}=0, f=1\text{MHz}$			40	pF
Transition frequency	f_{T}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-100\text{mA}$		120		MHz

CLASSIFICATION OF h_{FE}

RANK	O	Y
RANGE	80-160	120-240