



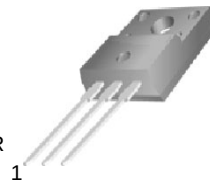
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220F Plastic-Encapsulate Transistors

2SD1499 TRANSISTOR (NPN)

TO-220F

1. BASE
2. COLLECTOR
3. EMITTER



FEATURES

- Extremely satisfactory linearity of the forward current transfer ratio h_{FE}
- Wide safe operation area
- High transition frequency f_T
- Full-pack package which can be installed to the heat sink with one screw.

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	5	A
P_C	Collector Power Dissipation	2	W
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	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CEO}	$V_{CE}=50\text{V}, I_B=0$			50	μA
Collector cut-off current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			50	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			50	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=20\text{mA}$	20			
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	60		200	
	$h_{FE(3)}$	$V_{CE}=5\text{V}, I_C=3\text{A}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.3\text{A}$			2	V
Base-emitter voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=3\text{A}$			1.8	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		90		pF
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$		20		MHz

CLASSIFICATION OF h_{FE2}

Rank	Q	P
Range	60-120	100-200

Typical Characteristics

2SD1499

