



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-126C Plastic-Encapsulate Transistors

2SB649/2SB649A TRANSISTOR (PNP)

FEATURES

Power amplifier applications

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-180	V
V_{CEO}	Collector-Emitter Voltage		
	2SB649	-120	V
	2SB649A	-160	
V_{EBO}	Emitter-Base Voltage	-5	V
I_{C}	Collector Current –Continuous	-1.5	A
P_{C}	Collector Dissipation	1	W
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-126C

1. EMITTER

2. COLLECTOR

3. BASE

1 2 3

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=-1\text{mA}, I_{\text{E}}=0$	-180			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=-10\text{mA}, I_{\text{B}}=0$	-120			V
		2SB649	-120			
		2SB649A	-160			
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}	$V_{\text{CB}}=-160\text{V}, I_{\text{E}}=0$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=-4\text{V}, I_{\text{C}}=0$			-10	μA
DC current gain	$h_{\text{FE}(1)}$	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-150\text{mA}$	60		320	
		2SB649	60		200	
		2SB649A	60		200	
	$h_{\text{FE}(2)}$	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-500\text{mA}$	30			
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}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-150\text{mA}$			-1.5	V
Transition frequency	f_{T}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-150\text{mA}$		140		MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=-10\text{V}, I_{\text{E}}=0, f=1\text{MHz}$		27		pF

CLASSIFICATION OF $h_{\text{FE}(1)}$

Rank		B	C	D
Range	2SD649	60-120	100-200	160-320
	2SD649A	60-120	100-200	

Typical Characteristics

2SB649,649A



