

JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-23 Plastic-Encapsulate Transistors

S9013 TRANSISTOR (NPN)

FEATURES

- High Collector Current.
- Complementary to S9012.
- Excellent h_{FE} Linearity.

MARKING: J3

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	40	V
V _{CEO}	Collector-Emitter Voltage	25	V
V _{EBO}	Emitter-Base Voltage	5	V
Ic	Collector Current	500	mA
Pc	Collector Power Dissipation	300	mW
R _{OJA}	Thermal Resistance From Junction To Ambient	416	°C/W
Tj	Junction Temperature	150	$^{\circ}$
T _{stg}	Storage Temperature	-55∼+150	$^{\circ}$

SOT - 23 1. BASE

- 2. EMITTER
- 3. COLLECTOR

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Тур	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =0.1mA, I _E =0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I _C =1mA, I _B =0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I _E =0.1mA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =40V, I _E =0			0.1	uA
Collector cut-off current	I _{CEO}	V _{CE} =20V, I _B =0			0.1	uA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			0.1	uA
DC ourrent gain	h _{FE(1)}	V _{CE} =1V, I _C =50mA	120		400	
DC current gain	h _{FE(2)}	V _{CE} =1V, I _C =500mA	40			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA			0.6	٧
Base-emitter saturation voltage	$V_{BE(sat)}$	I _C =500mA, I _B =50mA			1.2	٧
Base-emitter voltage V _{BE}		V _{CB} =1V,I _C =10mA,			0.7	V
Transition frequency f _T		V _{CE} =6V,I _C =20mA, f=30MHz	150			MHz
Collector output capacitance	C _{ob}	V _{CB} =6V, I _E =0, f=1MHz			8	pF

CLASSIFICATION OF h_{FE(1)}

RANK	L	Н	J
RANGE	120-200	200-350	300-400

Typical Characterisitics

S9013

