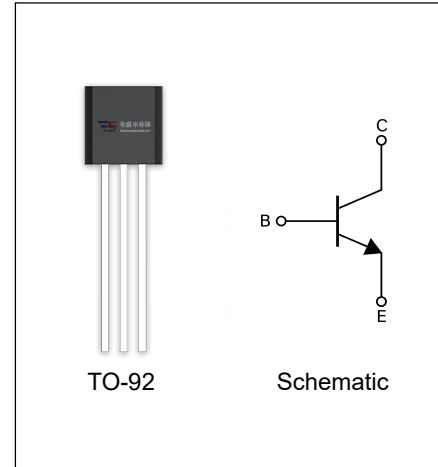


S9013 TRANSISTOR (NPN)

FEATURES

- Complementary to S9012
- Excellent h_{FE} linearity



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ 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
I_C	Collector Current -Continuous	0.5	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	$^{\circ}\text{C} / \text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

T_a=25 °C unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100μA , 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 = 100μA , I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} = 40V , I _E =0			0.1	μA
Collector cut-off current	I _{CEO}	V _{CE} =20V , I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V , I _C =0			0.1	μA
DC current gain	h _{FE(1)}	V _{CE} =1V, I _C =50mA	64		400	
	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	V
Base-emitter voltage	V _{BE(sat)}	I _C = 500mA, I _B = 50mA			1.2	V
Transition frequency	f _T	V _{CE} =6V, I _C =20mA, f=30MHz	150			MHz

CLASSIFICATION OF h_{FE(1)}

Rank	D	E	F	G	H	I	J
Range	64-91	78-112	96-135	112-166	144-202	190-300	300-400

Static Characteristic
