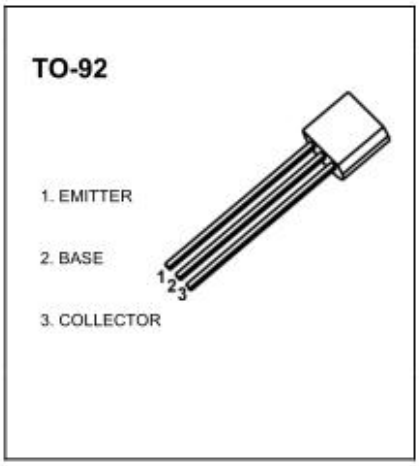
isc Silicon NPN Power Transistor S9013

DESCRIPTION

- Excellent hFE linearity
- Complement to PNP Type S9012
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Power amplifier applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	500	mA
P_C	Collector Power Dissipation @ T_C=25℃	625	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C= 100μA , I_E=0	40			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; I_B= 0	25			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E= 100μA , I_C=0	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 500mA; I_B= 50mA			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 500mA; I_B= 50mA			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V ; I_E= 0			0.1	μA
I_{CEO}	Collector cut-off current	V_{CE}=20V , I_E=0			0.1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			0.1	μA
h_{FE-1}	DC Current Gain	I_C= 50mA ; V_{CE}= 1V	64		400	
h_{FE-2}	DC Current Gain	I_C= 500mA ; V_{CE}= 1V	40			
f_T	Current-Gain—Bandwidth Product	V_{CE}=6V,I_C=20mA,f=30MHz	150			MHz

h_{FE-1} Classifications

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