

TO-126 Plastic-Encapsulate Transistors

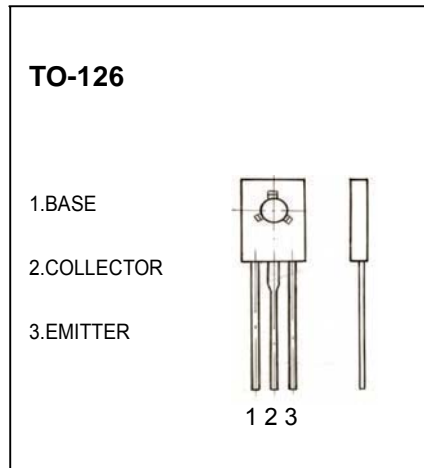
2SC3097 TRANSISTOR (NPN)

FEATURES

Power amplifier applications

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

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	1350	V
V_{CE0}	Collector-Emitter Voltage	800	V
V_{EB0}	Emitter-Base Voltage	9	V
I_C	Collector Current –Continuous	1.5	A
I_{cp}	Collector Current –Pulse	3	A
P_C	Collector Dissipation	1	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



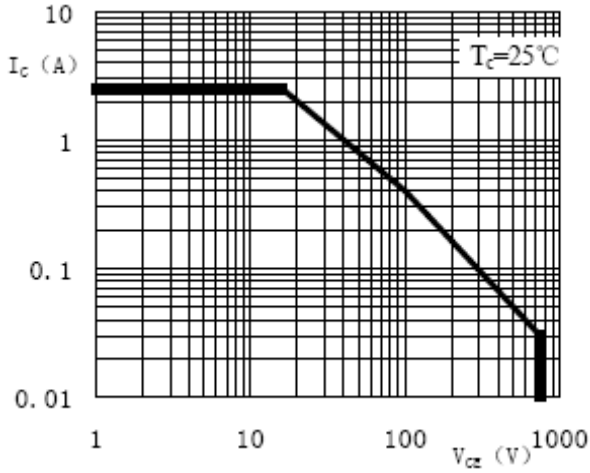
Marking: NZP 2SC3097 ****

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

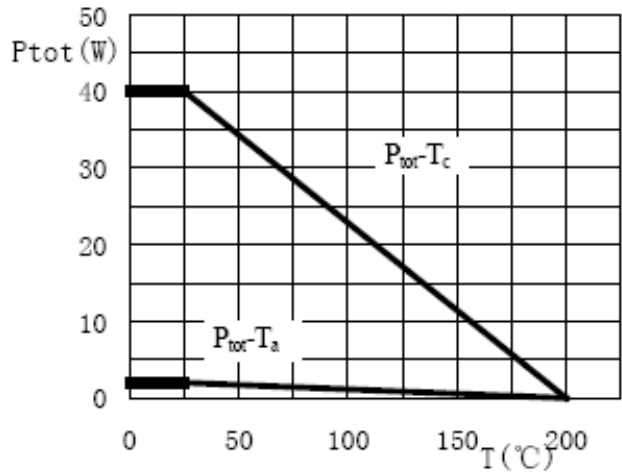
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	1350			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	800			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB}=1300\text{V}, I_E=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=9\text{V}, I_C=0$			10	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=100\text{mA}$	24		35	
		$V_{CE}=5\text{V}, I_C=1.5\text{A}$	5		25	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=0.5\text{A}, I_B=0.2\text{A}$		0.8	1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=0.2\text{A}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}$	3			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		30		pF
Raise time	t_r	UI9600, $I_C=0.5\text{A}$			4	μS
Storage time	t_{stg}		1		4	μS
Fall time	t_f				4	μS
Rank	CLASSIFICATION OF h_{FE} $V_{CE}=5\text{V}, I_C=100\text{mA}$					
Range	24--35					

Characteristic curve

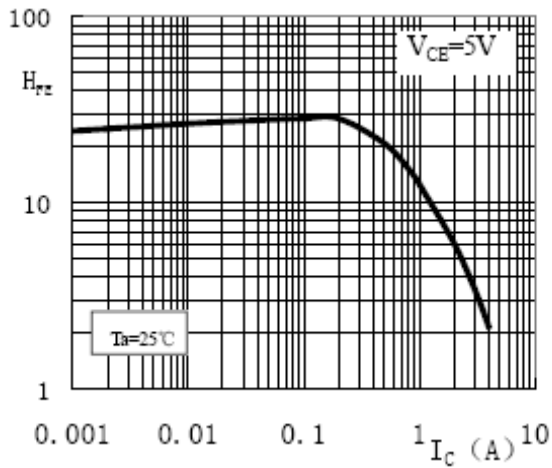
Secure working area (DC)



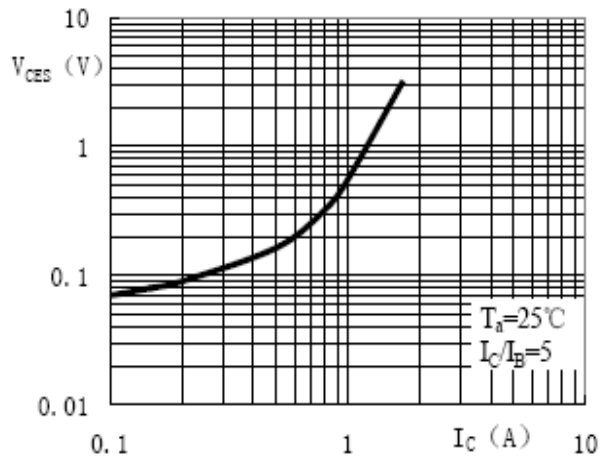
Ptot ~ T Relation curve



HFE ~ Ic Relation curve



Vces ~ Ic Relation curve



Vbes ~ Ic Relation curve

