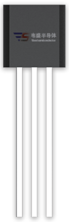
2N4400 TRANSISTOR (NPN)


1.EMITTER
2.COLLECTOR
3.BASE

TO-92

FEATURES

- General Purpose Amplifier Transistor

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2N4400	TO-92	Bulk	1000pcs/Bag
2N4400-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current -Continuous	0.6	A
P_C	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			0.1	μA
DC current gain	h_{FE}*	V_{CE}=1V, I_C=1mA	20			
		V_{CE}=1V, I_C=10mA	40			
		V_{CE}=1V, I_C=150mA	50		150	
		V_{CE}=2V, I_C=500mA	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=150mA,I_B=15mA			0.4	V
		I_C=500mA,I_B=50mA			0.75	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$*	I_C=150mA,I_B=15mA	0.75		0.95	V
		I_C=500mA,I_B=50mA			1.2	V
Collector output capacitance	C_{ob}	V_{CB}=5V,I_E=0, f=1MHz			6.5	pF
Emitter input capacitance	C_{ib}	V_{EB}=5V,I_C=0, f=1MHz			30	pF
Transition frequency	f_T	V_{CE}=10V,I_C=20mA, f=100MHz	200			MHz

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.