

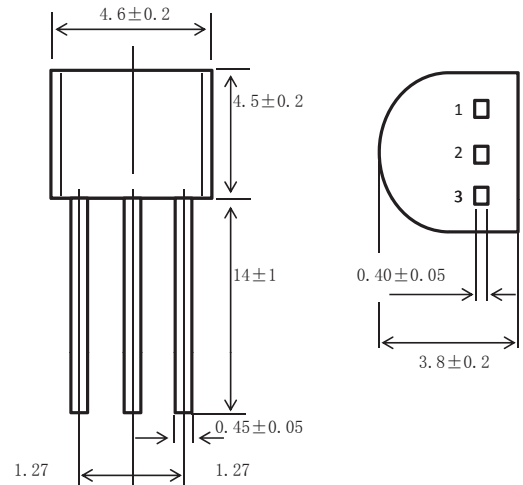
TO-92 Plastic-Encapsulate Transistors

FEATURE

- NPN Transistors

MECHANICAL DATA

- Case style:TO-92 molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Power dissipation	0.625	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ +150	°C
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	200	°C/W

PACKAGE INFORMATION

Device	Package	Shipping
2N4403	TO-92	2000/Tape&Reel

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-35V, I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$			-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=-1V, I_C=0.1mA$	30			
	$h_{FE(2)}$	$V_{CE}=-1V, I_C=1mA$	60			
	$h_{FE(3)}$	$V_{CE}=-1V, I_C=10mA$	100			
	$h_{FE(4)}$	$V_{CE}=-1V, I_C=150mA$	100		300	
	$h_{FE(5)}$	$V_{CE}=-2V, I_C=500mA$	20			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-150mA, I_B=-15mA$			-0.4	V
	$V_{CE(sat)2}$	$I_C=-500mA, I_B=-50mA$			-0.75	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=-150mA, I_B=-15mA$	-0.75		-0.95	V
	$V_{BE(sat)2}$	$I_C=-500mA, I_B=-50mA$			-1.3	V
Transition frequency	f_T	$V_{CE}=-10V, I_C=-20mA, f=100MHz$	200			MHz
Collector capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=100KHz$			8.5	pF
Delay time	t_d	$V_{CC}=-30V, I_C=-150mA$ $I_{B1}=-I_{B2}=-15mA$			15	nS
Rise time	t_r				20	nS
Storage time	t_s				225	nS
Fall time	t_f				30	nS

