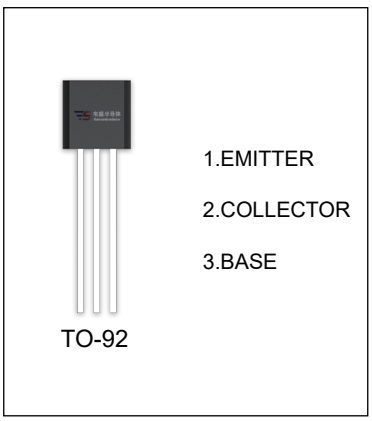
2N4403 TRANSISTOR (PNP)



FEATURES

Power dissipation

ORDERING INFORMATION

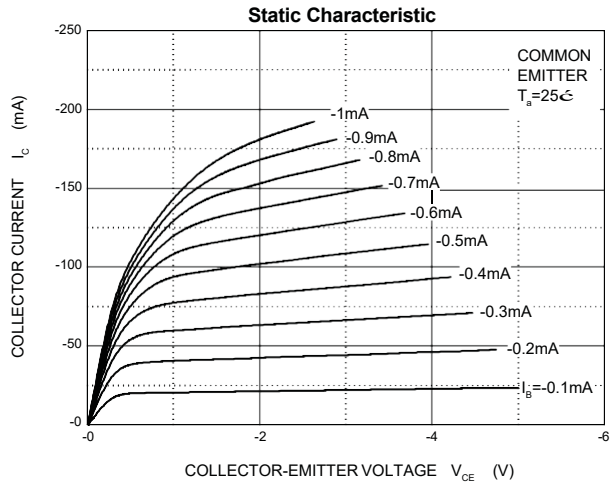
Part Number	Package	Packing Method	Pack Quantity
2N4403	TO-92	Bulk	1000pcs/Bag
2N4403-TA	TO-92	Tape	2000pcs/Box

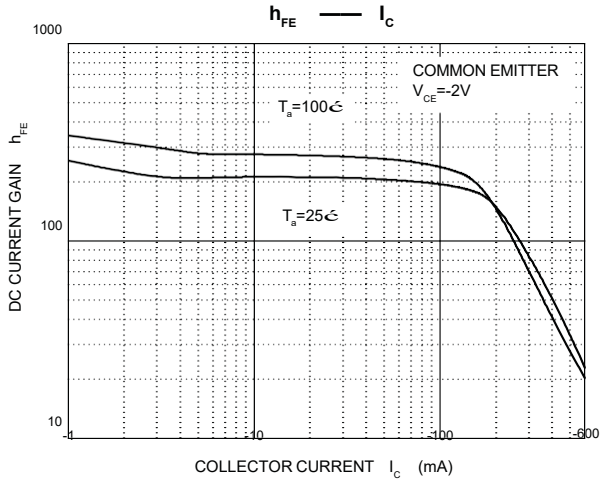
MAXIMUM RATINGS (T_a=25 ℃ unless otherwise noted)

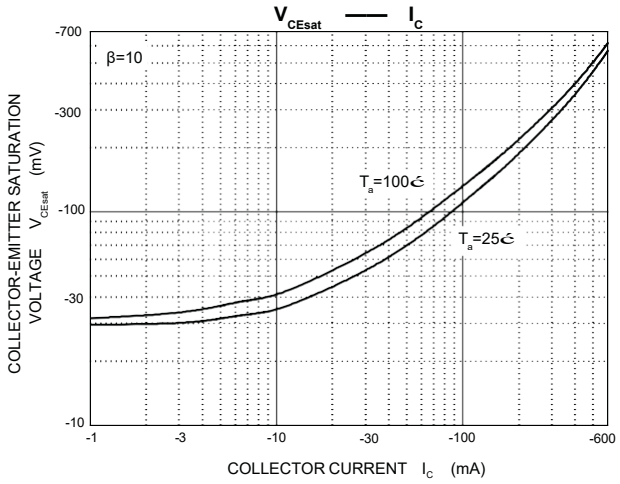
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Currnet -Continuous	-600	mA
P_C	Collector Power dissipation	0.625	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55 +150	℃
$R_{\theta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

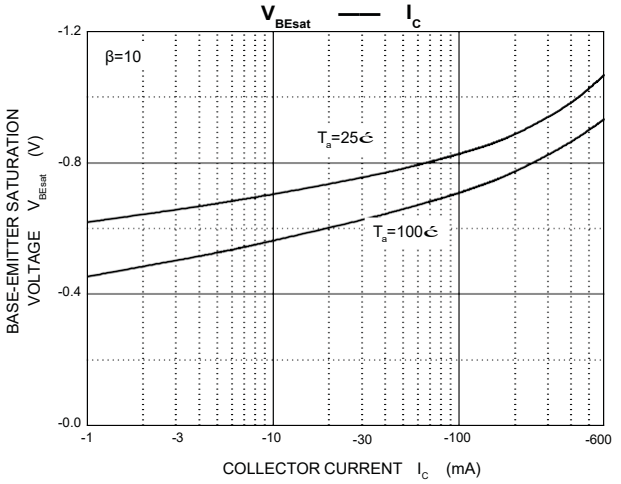
T_a=25℃ unless otherwise specified

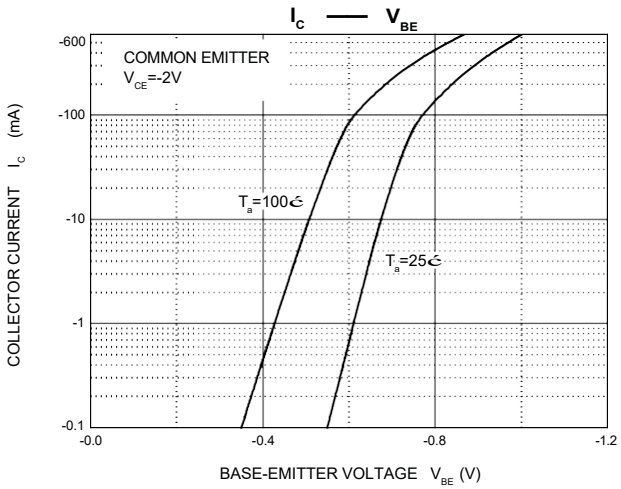
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-35V,I_E=0			-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}=-2V,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

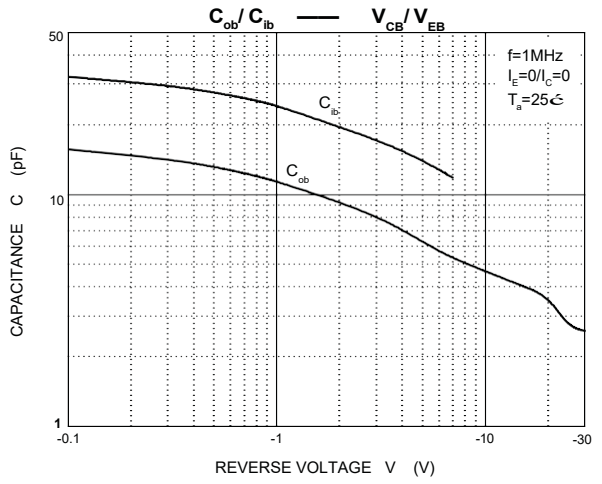

Static Characteristic
COMMON EMITTER
Ta=25℃
-1mA
-0.9mA
-0.8mA
-0.7mA
-0.6mA
-0.5mA
-0.4mA
-0.3mA
-0.2mA
IB=-0.1mA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

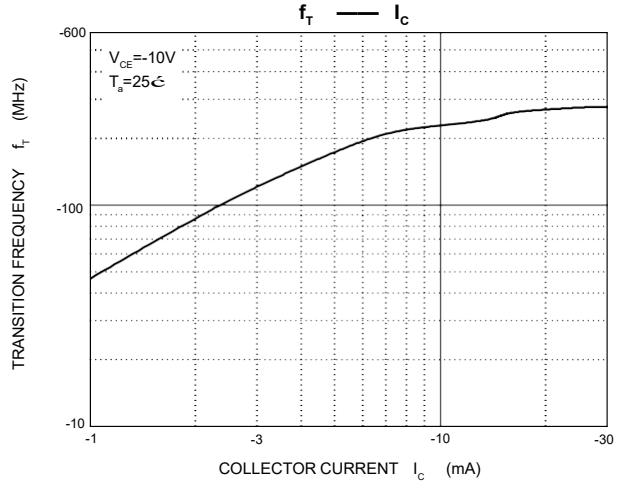

hFE — IC
COMMON EMITTER
VCE=-2V
Ta=100℃
Ta=25℃
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)

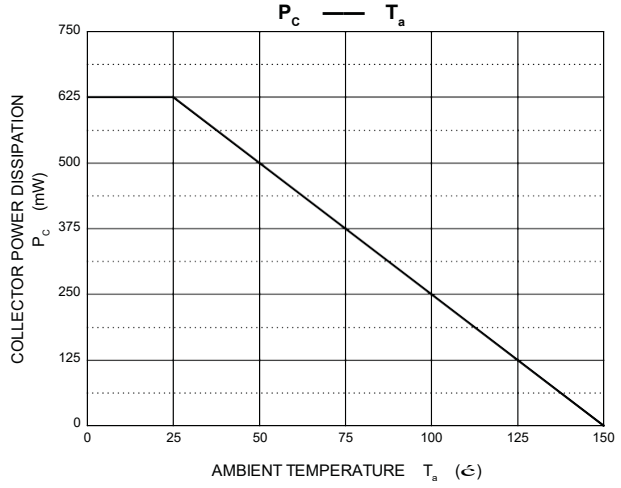

VCEsat — IC
β=10
Ta=100℃
Ta=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


VBEsat — IC
β=10
Ta=25℃
Ta=100℃
BASE-EMITTER SATURATION VOLTAGE VBEsat (V)
COLLECTOR CURRENT IC (mA)


IC — VBE
COMMON EMITTER
VCE=-2V
Ta=100℃
Ta=25℃
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE (V)


Cob/ Cib — VCB/ VEB
f=1MHz
IE=0/IC=0
Ta=25℃
Cib
Cob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


fT — IC
VCE=-10V
Ta=25℃
TRANSITION FREQUENCY fT (MHz)
COLLECTOR CURRENT IC (mA)


PC — Ta
COLLECTOR POWER DISSIPATION PC (mW)
AMBIENT TEMPERATURE Ta (℃)