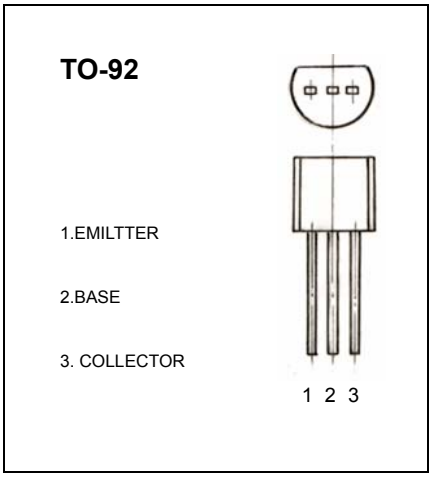
2N4401

TRANSISTOR (NPN)



FEATURES

Power dissipation

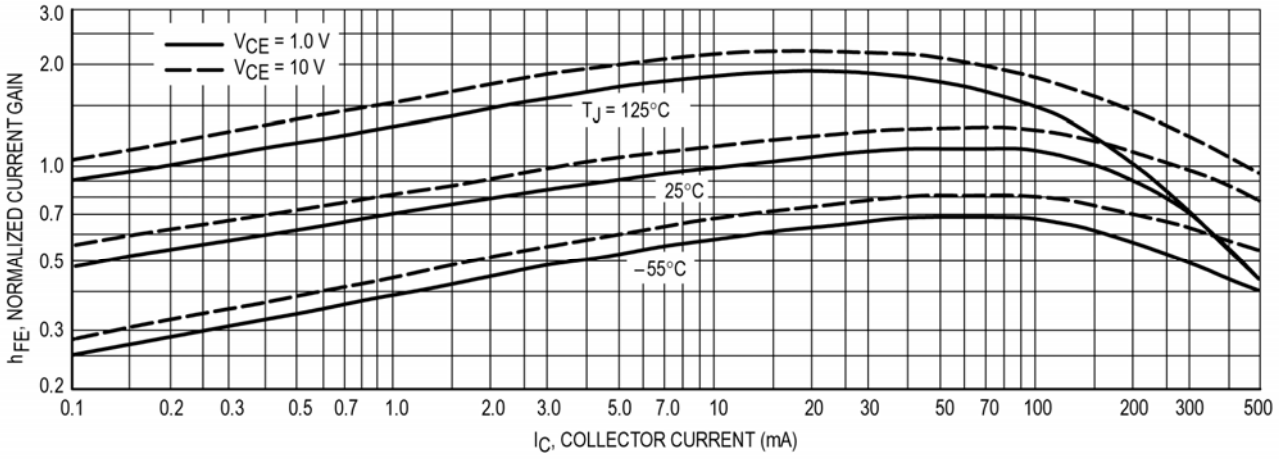
MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power dissipation	0.625	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55to +150	℃
$R_{\Theta JA}$	Thermal Resistance, junction to Ambient	357	℃/mW

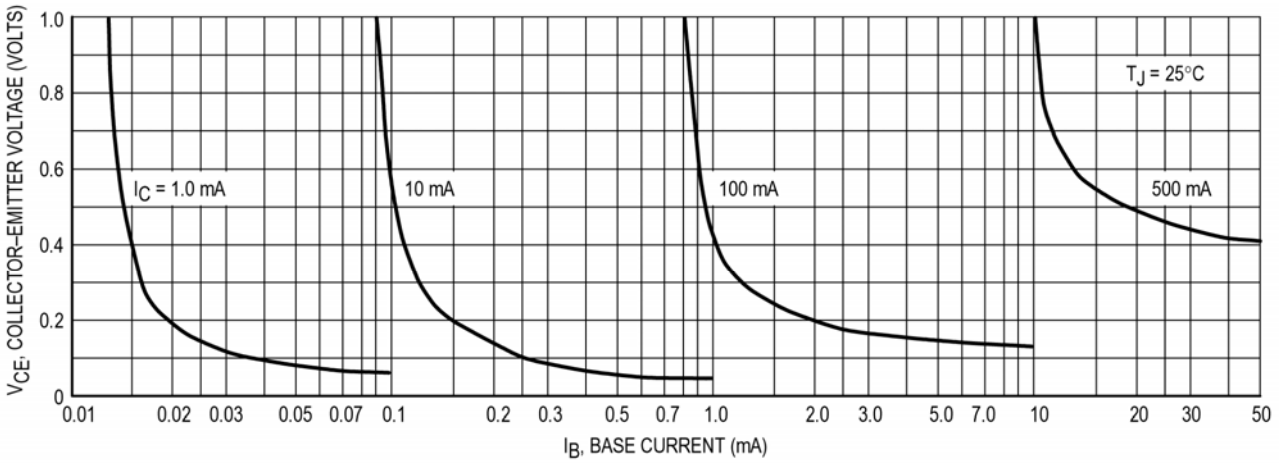
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA , 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=100μA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=35V, I_E=0		0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0		0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C= 0.1mA	20		
	$h_{FE(2)}$	V_{CE}=1V, I_C=1mA	40		
	$h_{FE(3)}$	V_{CE}=1V, I_C= 10mA	80		
	$h_{FE(4)}$	V_{CE}=1V, I_C=150mA	100	300	
	$h_{FE(5)}$	V_{CE}=2V, I_C= 500mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=150 mA, I_B=15mA		0.4	V
	$V_{CE(sat)2}$	I_C=500 mA, I_B=50mA		0.75	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=150 mA, I_B=15mA		0.95	V
	$V_{BE(sat)2}$	I_C=500 mA, I_B=50mA		1.2	V
Transition frequency	f_T	V_{CE}= 10V, I_C= 20mA, f=100MHz	250		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E= 0, f=100KHz		6.5	pF
Delay time	t_d	V_{CC}=30V, $V_{BE(OFF)}$=2V I_C=150mA, I_{B1}=15mA		15	nS
Rise time	t_r			20	nS
Storage time	t_S	V_{CC}=30V, I_C=150mA I_{B1}=-I_{B2}= 15mA		225	nS
Fall time	t_f			30	nS

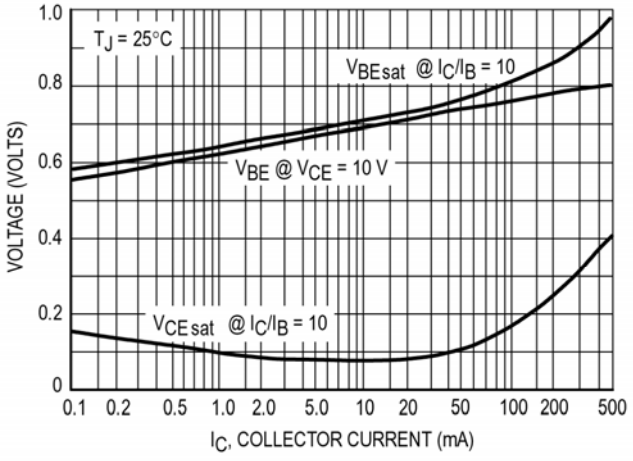
Typical Characteristics 2N4401



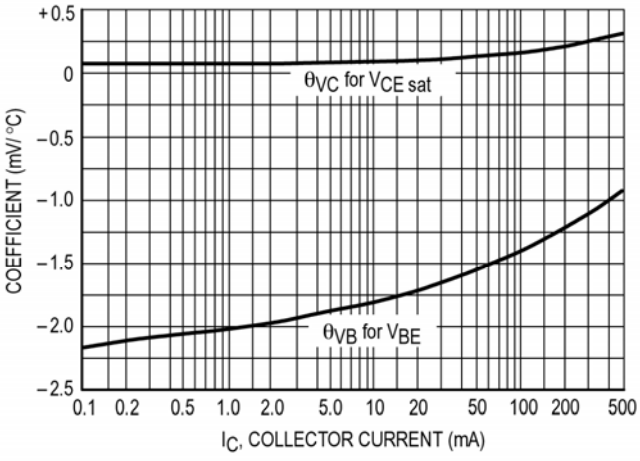
DC Current Gain



Collector Saturation Region



"On" Voltages



Temperature Coefficients

HTTP: WWW.HZ-DZ.NET