Elektronische Bauelemente

2N4403

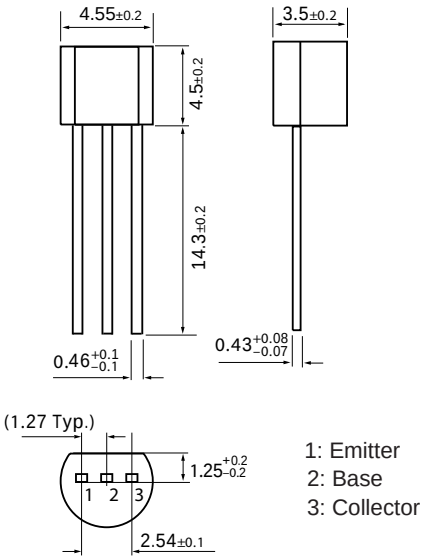
PNP Transistor

Plastic-Encapsulate Transistors

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

TO-92



FEATURES

Power Dissipation

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

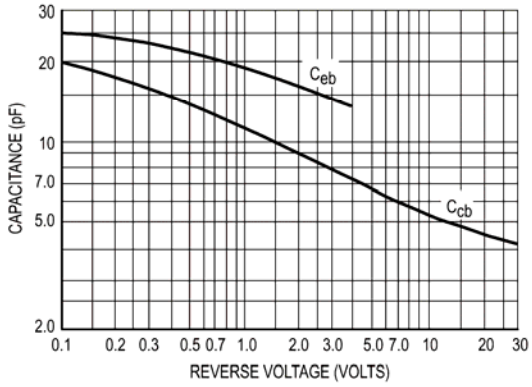
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C *	Collector Power dissipation	0.625	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55to +150	℃
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	357	℃/mW

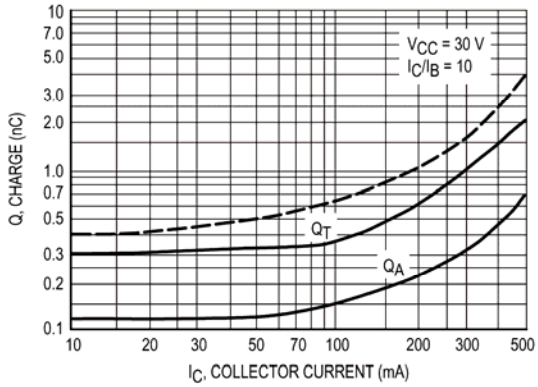
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

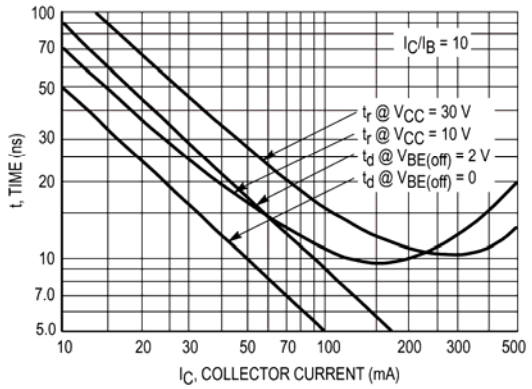
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA,I_C=0	-6			V
Collector cut-off current	I_{CBO}	V_{CB}=-35V,I_E=0			-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

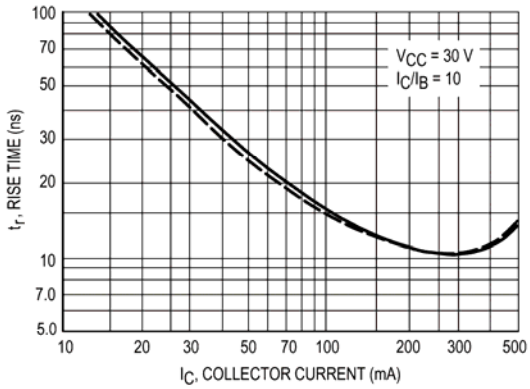
Typical Characteristics

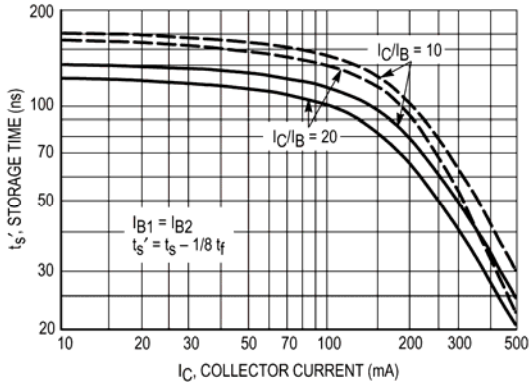
2N4403

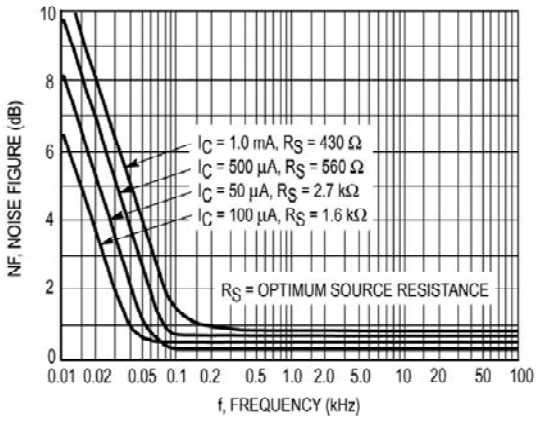


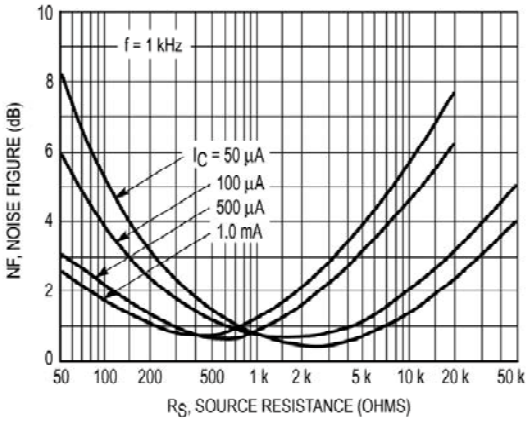












V_{CE} = –10 Vdc, f = 1.0 kHz, T_A = 25°C

This group of graphs illustrates the relationship between h_{fe} and other "h" parameters for this series of transistors. To obtain these curves, a high–gain and a low–gain unit were selected from the MMBT4403LT1 lines, and the same units were used to develop the correspondingly–numbered curves on each graph.