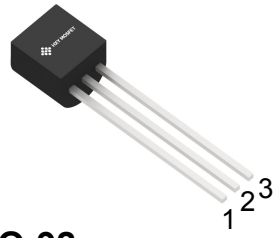
KN4401
NPN Plastic-Encapsulate Transistors

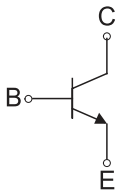
Features

- Collector Current: I_C= 0.6A
- Power Dissipation of 625mW

1. EMITTER
2. BASE
3. COLLECTOR



TO-92



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
KN4401	TO-92	2N2222A	1000

Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.6	A
P_D	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	℃

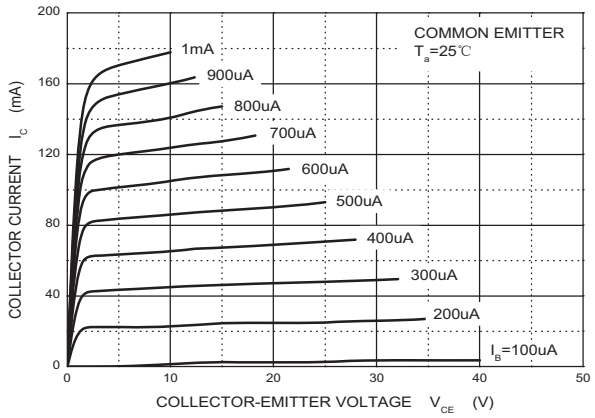
Electrcal Charcteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10uA , I_E=0	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA , I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 10uA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}= 60V, I_E=0		10	nA
Collector cut-off current	I_{CEX}	V_{CE}= 60V,$V_{EB(Off)}$=3V		10	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 3 V, I_C=0		100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=10V,I_C= 150mA	100	300	
	$h_{FE(2)}$	V_{CE}=10V,I_C= 0.1mA	40		
	$h_{FE(3)}$*	V_{CE}=10V, I_C= 500mA	42		
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$*	I_C= 500mA, I_B=50mA		0.6	V
	$V_{CE(sat)(2)}$*	I_C= 150mA, I_B=15mA		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C= 500mA, I_B= 50mA		1.2	V
Delay time	t_d	V_{CC}=30V, $V_{EB(Off)}$=-0.5V,		10	nS
Rise time	t_r	I_C=150mA,I_{B1}=15mA		25	nS
Storage time	t_S	V_{CC}=30V,Ic=150mA,I_{B1}=I_{B2}=15mA		225	nS
Fall time	t_f			60	nS
Transition frequency	f_T	V_{CE}=20V, I_C=20mA, f=100MHz	300		MHz

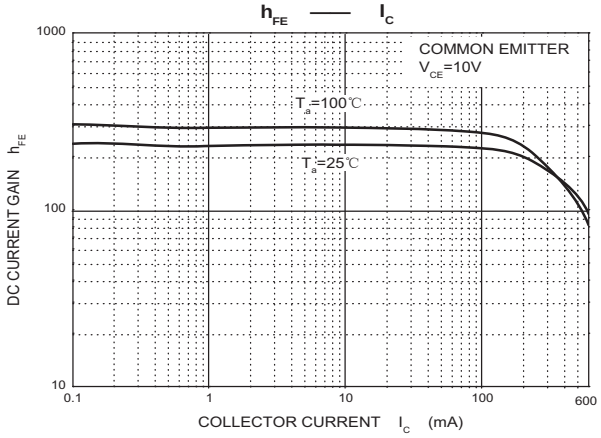
*pulse test

Typical Characteristics

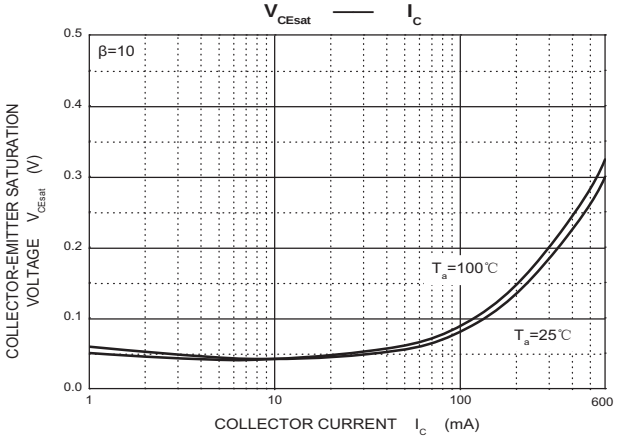
Static Characteristic



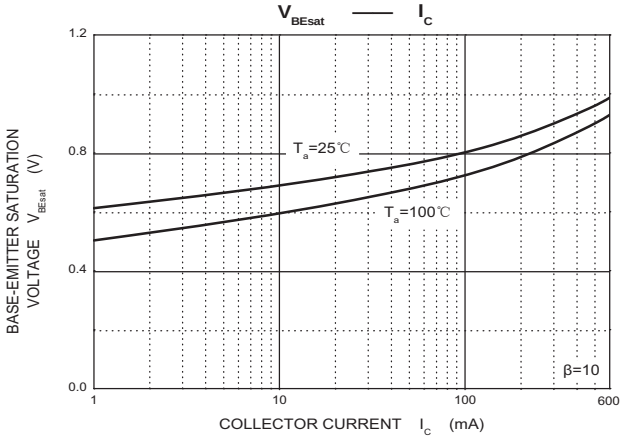
h_{FE} —— I_C



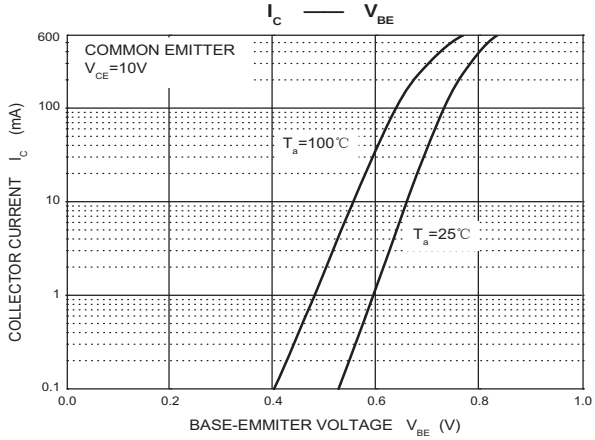
V_{CEsat} —— I_C



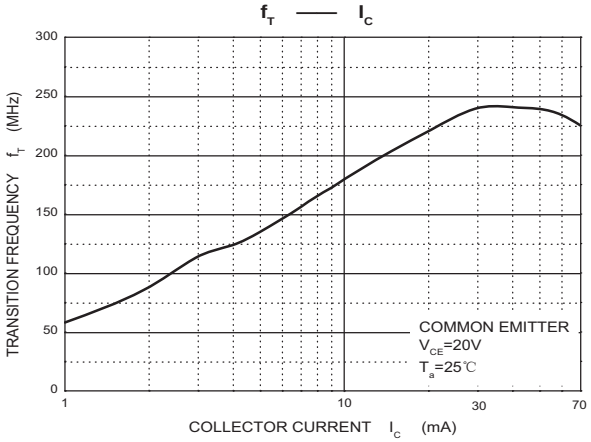
V_{BEsat} —— I_C

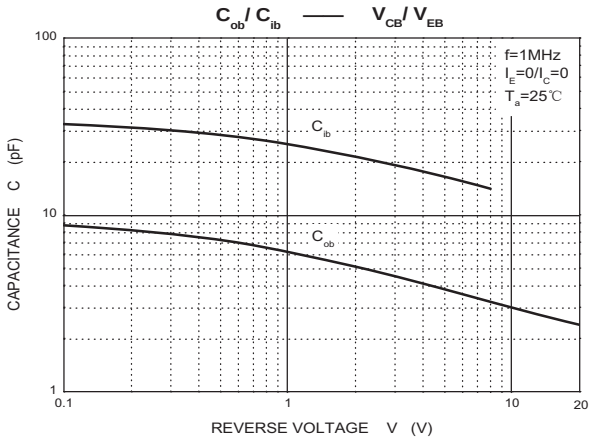


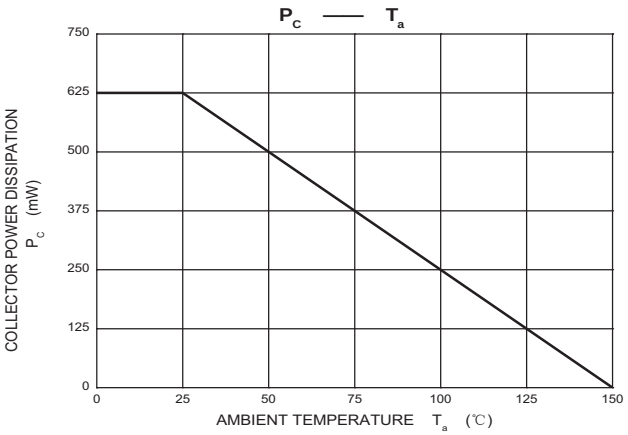
I_C —— V_{BE}



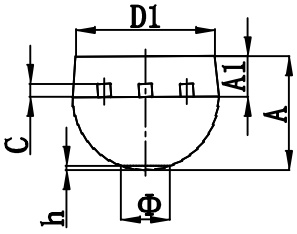
f_T —— I_C

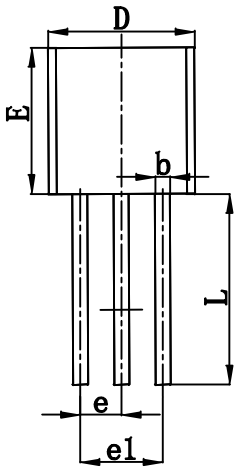






TO-92(TO-92-3) Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

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