



TO-92 Plastic-Encapsulate Transistors

3DK2222A TRANSISTOR(NPN)

FEATURE

Power dissipation

$P_{CM} : 0.625 \text{ W}(T_{amb}=25^{\circ}\text{C})$

TO-92

1. EMITTER
2. BASE
3. COLLECTOR



MAXIMUM RATINGS* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
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	600	mA
P_D	Total Device Dissipation	625	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Junction and Storage Temperature	-55-150	$^{\circ}\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

ELECTRICAL CHARACTERISTICS($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

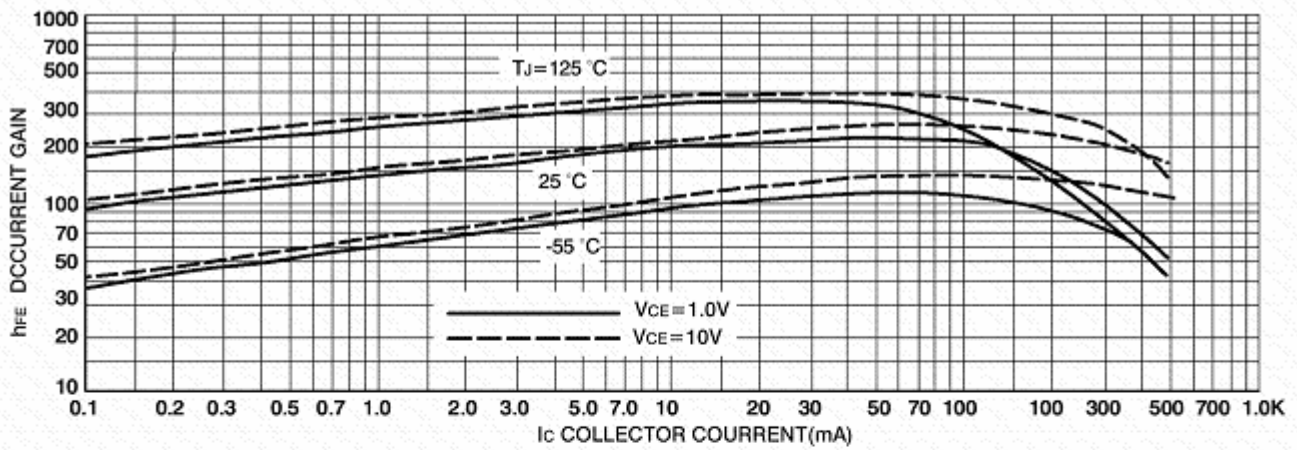
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	75		V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=10\text{mA}, I_B=0$	40		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$		10	nA
Collector cut-off current	I_{CEX}	$V_{CE}=60\text{V}, V_{EB(OFF)}=3\text{V}$		10	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$		10	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
	$h_{FE(2)}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	40		
	$h_{FE(3)}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	42		
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.6	V
	$V_{CE(sat)(2)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2	V
Storage time	t_{stg}	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$		225	ns
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	300		MHz

CLASSIFICATION OF $h_{FE(1)}$

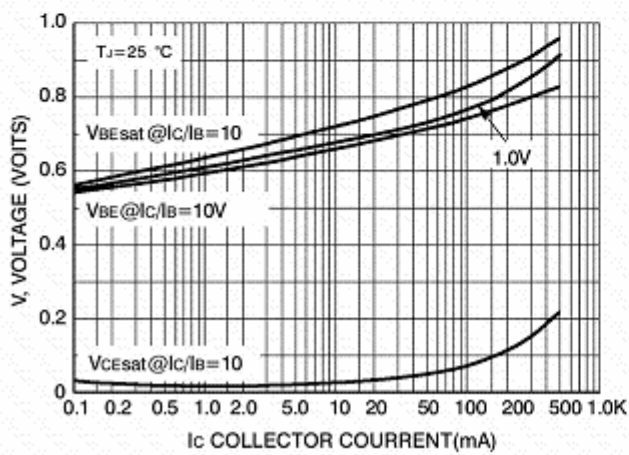
Rank	L	H
Range	100-200	200-300

Typical Characteristics

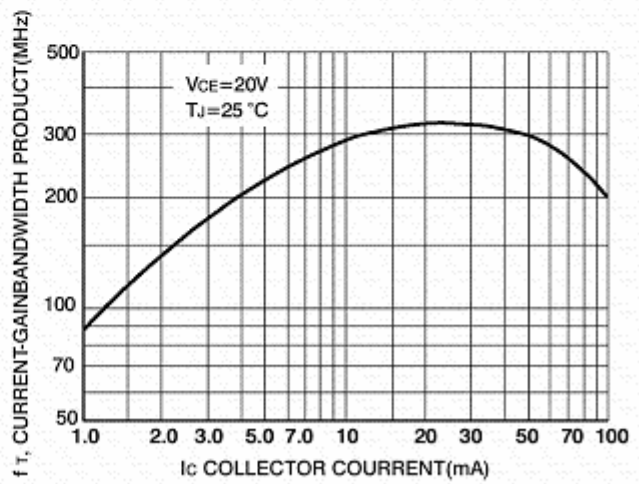
3DK2222A



DC Current Gain



"On" Volages



Current-Gain Bandwidth Product