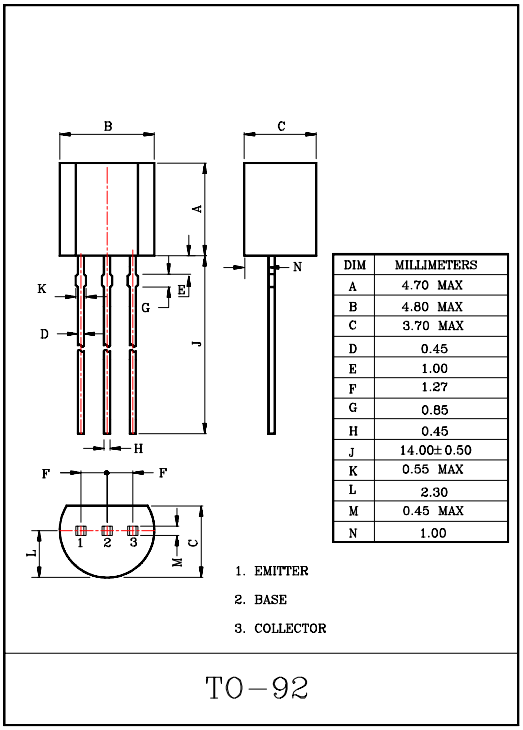
KN3903

EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES

- Low Leakage Current
  : I_{CEX}=50nA(Max.), @V_{CE}=30V, V_{EB}=3V.
- Low Saturation Voltage
  : $V_{CE(sat)}$=0.3V(Max.) @I_C=50mA, I_B=5mA.
- Complementary to KN3905.



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

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MAXIMUM RATINGS (Ta=25℃)

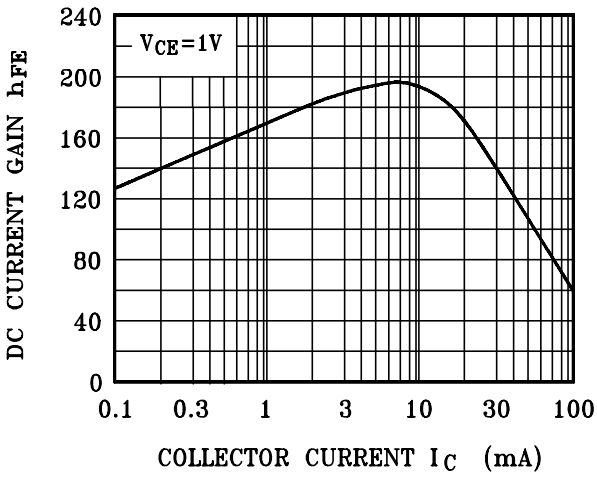
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	200	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

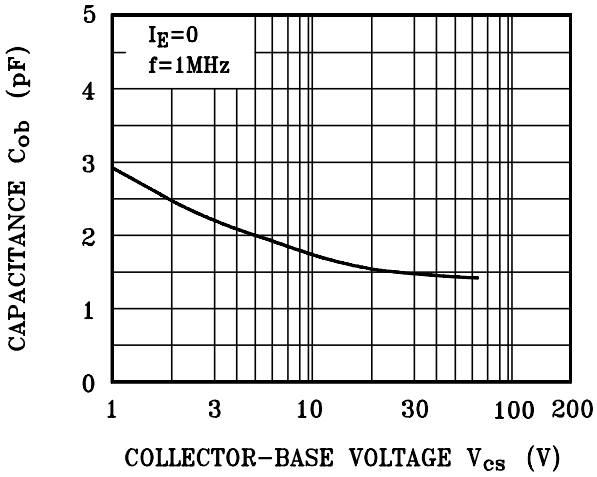
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CEX}	V_{CE}=30V, V_{EB}=3V	-	-	50	nA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	60	-	-	V
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	I_C=1mA, I_B=0	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6	-	-	V
DC Current Gain *	h_{FE}(1)	V_{CE}=1V, I_C=0.1mA	20	-	-	
	h_{FE}(2)	V_{CE}=1V, I_C=1mA	35	-	-	
	h_{FE}(3)	V_{CE}=1V, I_C=10mA	50	-	150	
	h_{FE}(4)	V_{CE}=1V, I_C=50mA	30	-	-	
	h_{FE}(5)	V_{CE}=1V, I_C=100mA	15	-	-	
Collector-Emitter Saturation Voltage *	$V_{CE(sat)}$1	I_C=10mA, I_B=1mA	-	-	0.2	V
	$V_{CE(sat)}$2	I_C=50mA, I_B=5mA	-	-	0.3	
Base-Emitter Saturation Voltage *	$V_{BE(sat)}$1	I_C=10mA, I_B=1mA	0.65	-	0.85	V
	$V_{BE(sat)}$2	I_C=50mA, I_B=5mA	-	-	0.95	
Transition Frequency	f_T	V_{CE}=20V, I_C=10mA, f=100MHz	-	300	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=5V, I_E=0, f=1MHz	-	-	4.0	pF

*Pulse Test : Pulse Width ≦300μS, Duty Cycle≦2%

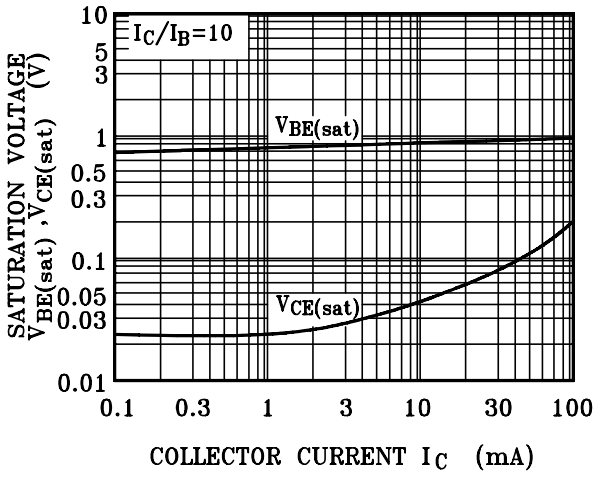
h_{FE} – I_C



C_{ob} – V_{CB}



$V_{BE(sat)}$, $V_{CE(sat)}$ – I_C



P_C – Ta