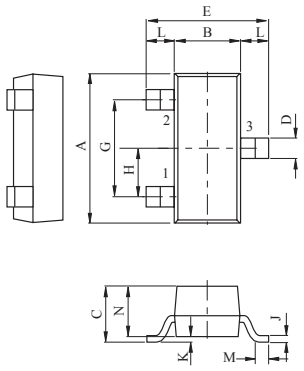
KN3904S

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 the KN3906S.
- Suffix U : Qualified to AEC-Q101.
  ex) KN3904S-RTK/HU



Unit : mm

DIM	MILLIMETERS
A	2.93 ± 0.20
B	1.30+0.20/-0.15
C	1.0+0.3/-0.1
D	0.40+0.15/-0.05
E	2.40+0.30/-0.20
G	1.90 ± 0.10
H	0.95 ± 0.10
J	0.13+0.10/-0.05
K	0.00 ~ 0.10
L	0.55 ± 0.10
M	0.20 MIN
N	1.00+0.20/-0.10

1. EMITTER
2. BASE
3. COLLECTOR

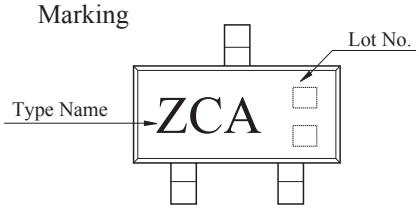
SOT-23

MAXIMUM RATING (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 *	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

Note : * Package Mounted On 99.5% Alumina (10x 8 x 0.6mm)

Marking

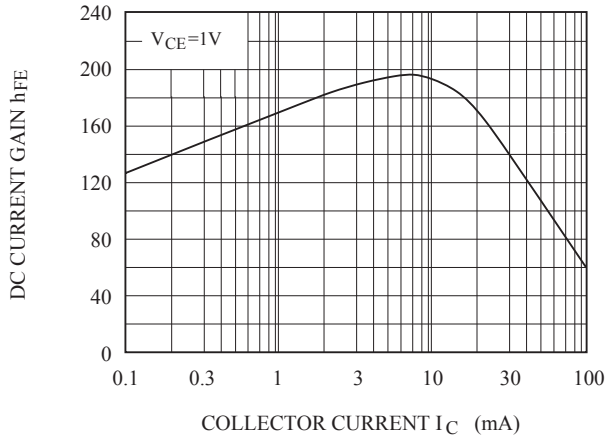


ELECTRICAL CHARACTERISTICS (Ta=25°C)

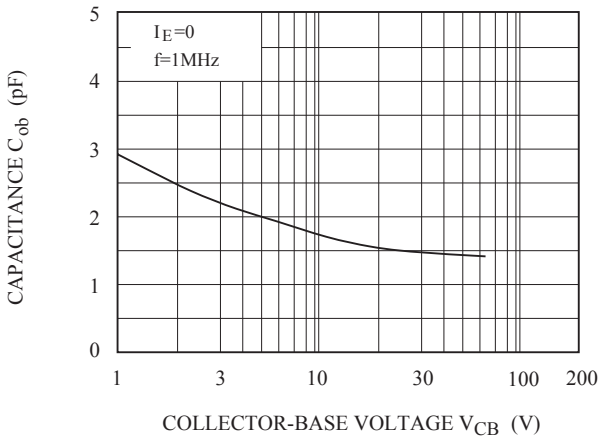
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CEX}	V_{CE}=30V, V_{EB}=3V	-	-	50	nA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	60	-	-	V
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	I_C=1mA, I_B=0	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6	-	-	V
DC Current Gain *	h_{FE}(1)	V_{CE}=1V, I_C=0.1mA	40	-	-	
	h_{FE}(2)	V_{CE}=1V, I_C=1mA	70	-	-	
	h_{FE}(3)	V_{CE}=1V, I_C=10mA	100	-	300	
	h_{FE}(4)	V_{CE}=1V, I_C=50mA	60	-	-	
	h_{FE}(5)	V_{CE}=1V, I_C=100mA	30	-	-	
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%.

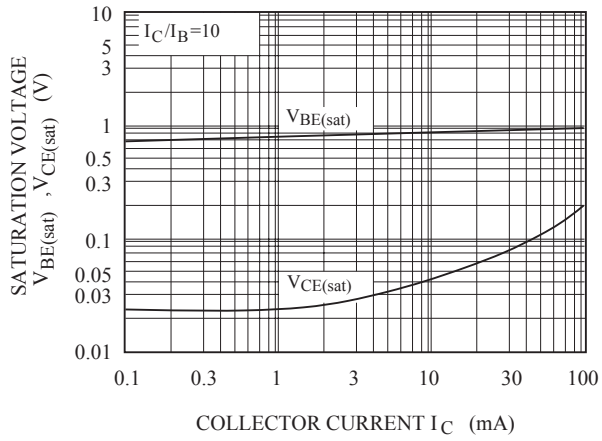
h_{FE} - I_C



C_{ob} - V_{CB}



$V_{BE(sat)}$,$V_{CE(sat)}$ - I_C



I_C - V_{CE}