

GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

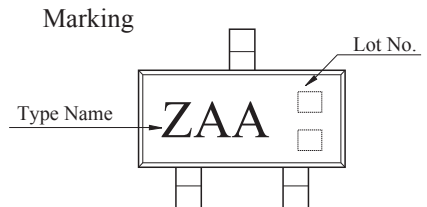
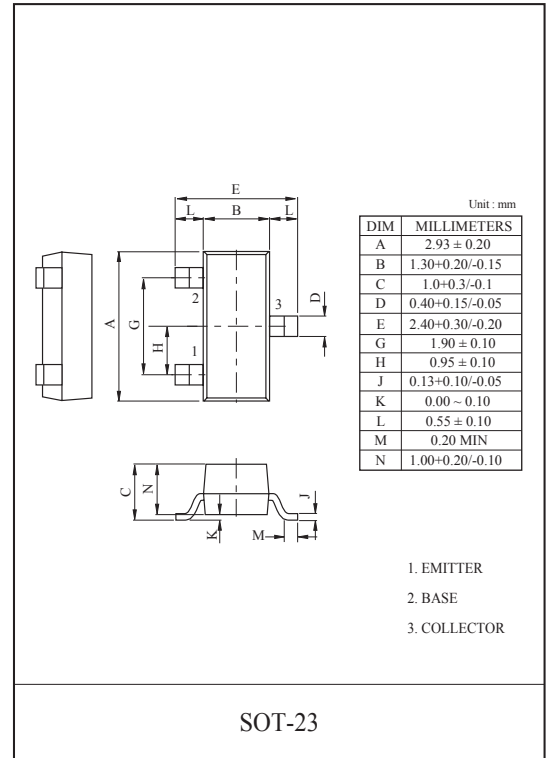
### FEATURES

- Low Leakage Current  
:  $I_{CEX} = -50\text{nA}(\text{Max.})$ ; @  $V_{CE} = -30\text{V}$ ,  $V_{EB} = -3\text{V}$ .
- Low Saturation Voltage  
:  $V_{CE(\text{sat})} = -0.4\text{V}(\text{Max.})$ ;  $I_C = -50\text{mA}$ ,  $I_B = -5\text{mA}$ .
- Complementary to the KN3904S.
- Suffix U : Qualified to AEC-Q101.  
ex) KN3906S-RTK/HU

### MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-40	V
Emitter-Base Voltage	$V_{EBO}$	-5	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)



# KN3906S

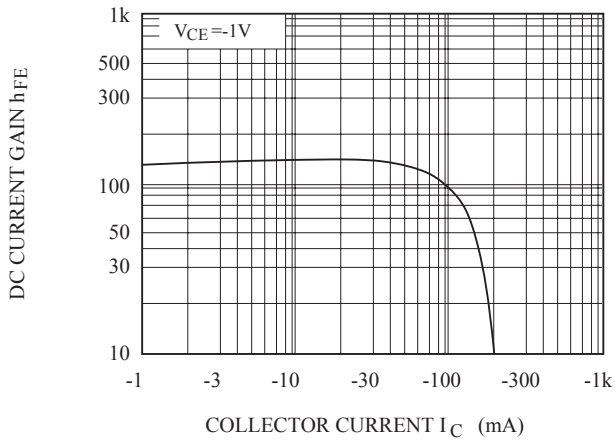
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-40	-	-	V
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5	-	-	V
DC Current Gain *	$h_{FE(1)}$	$V_{CE}=-1V, I_C=-0.1mA$	60	-	-	
	$h_{FE(2)}$	$V_{CE}=-1V, I_C=-1mA$	80	-	-	
	$h_{FE(3)}$	$V_{CE}=-1V, I_C=-10mA$	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 *	$V_{CE(sat)1}$	$I_C=-10mA, I_B=-1mA$	-	-	-0.25	V
	$V_{CE(sat)2}$	$I_C=-50mA, I_B=-5mA$	-	-	-0.4	
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	$f_T$	$V_{CE}=-20V, I_C=-10mA, f=100MHz$	-	250	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=-5V, I_E=0, f=1MHz$	-	-	4.5	pF

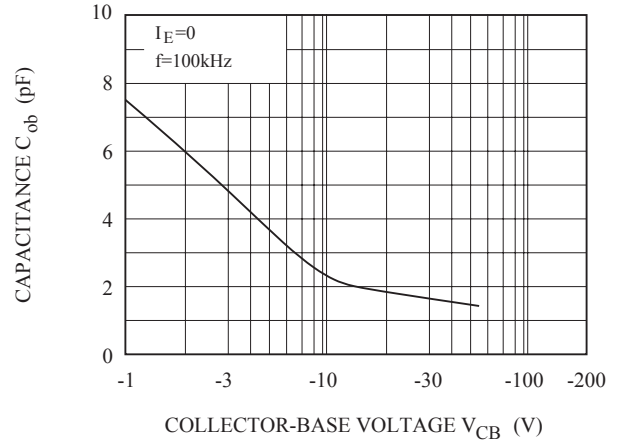
\* Pulse Test : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

# KN3906S

$h_{FE} - I_C$



$C_{ob} - V_{CB}$



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

