

GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

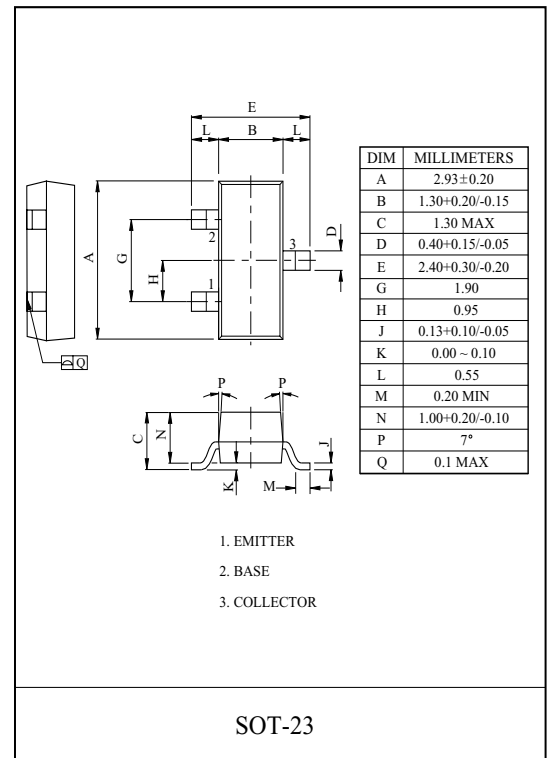
### FEATURES

- Low Leakage Current  
:  $I_{CEX}=10nA(\text{Max.})$ ;  $V_{CE}=60V$ ,  $V_{EB(\text{OFF})}=3V$ .
- Low Saturation Voltage  
:  $V_{CE(\text{sat})}=0.3V(\text{Max.})$ ;  $I_C=150mA$ ,  $I_B=15mA$ .
- Complementary to the KN2907S/2907AS.

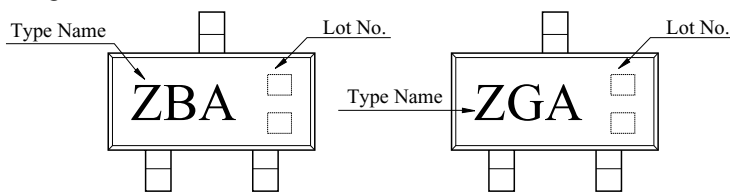
### MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING		UNIT
		KN2222S	KN2222AS	
Collector-Base Voltage	$V_{CBO}$	60	75	V
Collector-Emitter Voltage	$V_{CEO}$	30	40	V
Emitter-Base Voltage	$V_{EBO}$	5	6	V
Collector Current	$I_C$	600		mA
Collector Power Dissipation (Ta=25 °C)	$P_C$	150		mW
	$P_C^*$	350		
Junction Temperature	$T_j$	150		
Storage Temperature Range	$T_{stg}$	-55 150		

Note : \* Package Mounted On 99.5% Alumina 10 × 8 × 0.6mm)



### Marking



### MARK SPEC

TYPE	MARK
KN2222S	ZBA
KN2222AS	ZGA

# KN2222S/AS

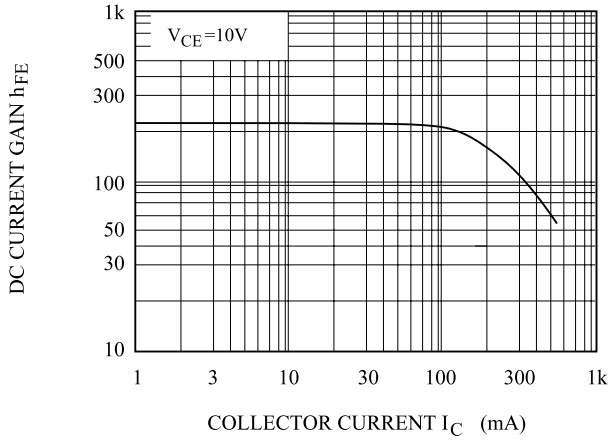
## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	KN2222AS	$I_{CEX}$	$V_{CE}=60V, V_{EB(OFF)}=3V$	-	-	10	nA
Collector Cut-off Current	KN2222S	$I_{CBO}$	$V_{CB}=50V, I_E=0$	-	-	10	nA
	KN2222AS		$V_{CB}=60V, I_E=0$	-	-	10	
Emitter Cut-off Current	KN2222AS/S	$I_{EBO}$	$V_{EB}=3V, I_C=0$	-	-	10	nA
Collector-Base Breakdown Voltage	KN2222S	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60	-	-	V
	KN2222AS			75	-	-	
Collector-Emitter Breakdown Voltage *	KN2222S	$V_{(BR)CEO}$	$I_E=10mA, I_B=0$	30	-	-	V
	KN2222AS			40	-	-	
Emitter-Base Breakdown Voltage	KN2222S	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5	-	-	V
	KN2222AS			6	-	-	
DC Current Gain *	KN2222S KN2222AS	$h_{FE(1)}$	$I_C=0.1mA, V_{CE}=10V$	35	-	-	
		$h_{FE(2)}$	$I_C=1mA, V_{CE}=10V$	50	-	-	
		$h_{FE(3)}$	$V_{CE}=10mA, V_{CE}=10V$	75	-	-	
		$h_{FE(4)}$	$I_C=150mA, V_{CE}=10V$	100	-	300	
	KN2222S KN2222AS	$h_{FE(5)}$	$I_C=500mA, V_{CE}=10V$	30	-	-	
				40	-	-	
Collector-Emitter Saturation Voltage *	KN2222S	$V_{CE(sat)1}$	$I_C=150mA, I_B=15mA$	-	-	0.4	V
	KN2222AS			-	-	0.3	
	KN2222S	$V_{CE(sat)2}$	$I_C=500mA, I_B=50mA$	-	-	1.6	
	KN2222AS			-	-	1.0	
Base-Emitter Saturation Voltage *	KN2222S	$V_{BE(sat)1}$	$I_C=150mA, I_B=15mA$	-	-	1.3	V
	KN2222AS			0.6	-	1.2	
	KN2222S	$V_{BE(sat)2}$	$I_C=500mA, I_B=50mA$	-	-	2.6	
	KN2222AS			-	-	2.0	
Transition Frequency	KN2222S	$f_T$	$I_C=20mA, V_{CE}=20V,$ $f=100MHz$	250	-	-	MHz
	KN2222AS			300	-	-	
Collector Output Capacitance		$C_{ob}$	$V_{CB}=10V, I_E=0, f=1.0MHz$	-	-	8	pF

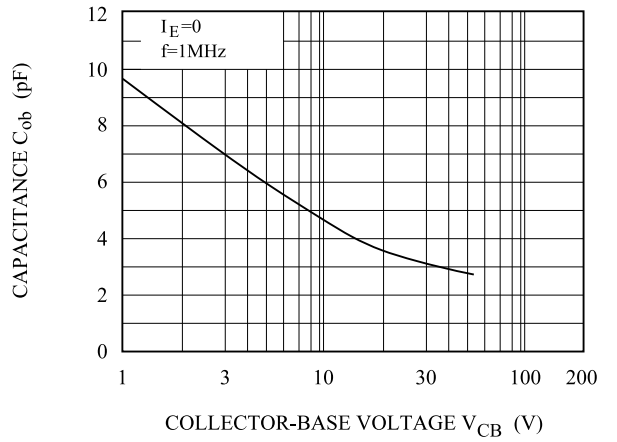
\* Pulse Test : Pulse Width 300  $\mu$ s, Duty Cycle 2%.

# KN2222S/AS

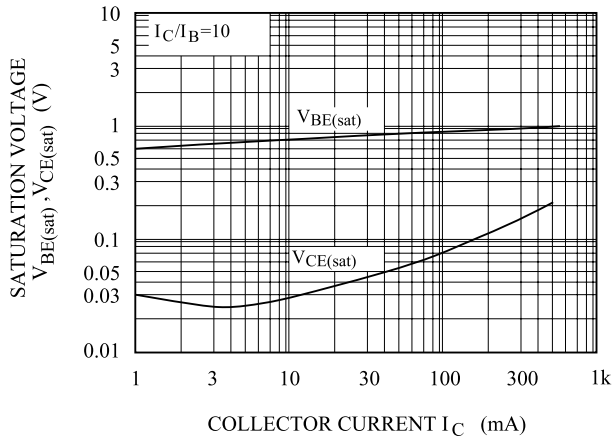
$h_{FE} - I_C$



$C_{ob} - V_{CB}$



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



$P_c - T_a$

