

SEMICONDUCTOR TECHNICAL DATA

KN2222S/AS EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION,
SWITCHING APPLICATION.

FEATURES

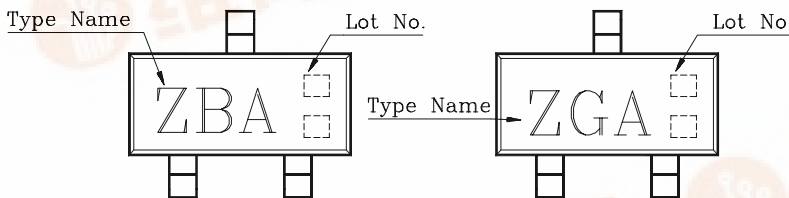
- Low Leakage Current
: $I_{CEX}=10nA(\text{Max.})$; $V_{CE}=60V$, $V_{EB(\text{OFF})}=3V$.
- Low Saturation Voltage
: $V_{CE(\text{sat})}=0.3V(\text{Max.})$; $I_C=150mA$, $I_B=15mA$.
- Complementary to KN2907S/2907AS.

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

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	P_C	150		mW
	P_C^*	350		
Junction Temperature	T_j	150		$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150		$^\circ\text{C}$

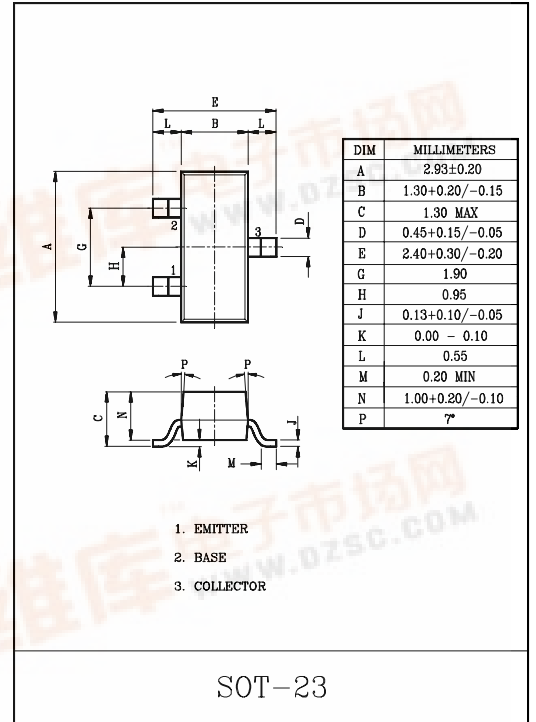
P_C^* : Package Mounted On 99.5% Alumina $10 \times 8 \times 0.6\text{mm}$.

Marking



MARK SPEC

TYPE	MARK
KN2222S	ZBA
KN2222AS	ZGA



KN2222S/AS

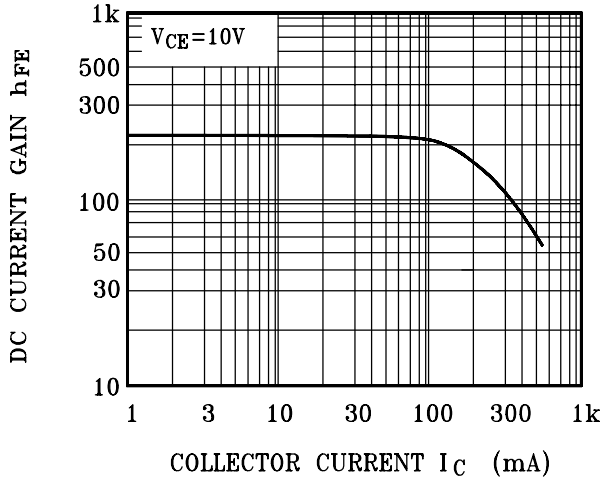
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	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	$h_{FE(5)}$	$I_C=150mA, V_{CE}=10V$	30	-	-	
	KN2222AS			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

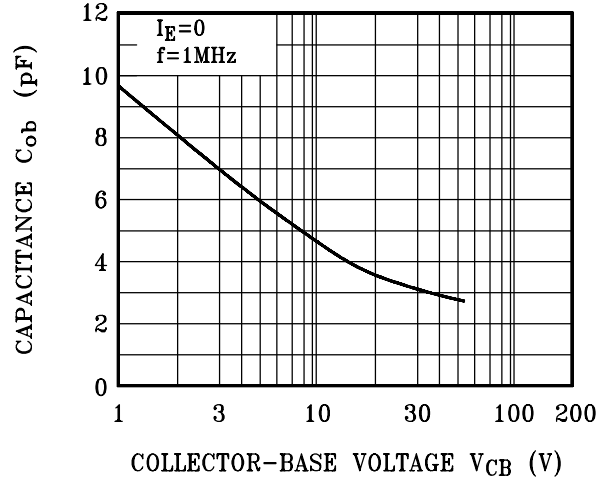
Note : *Pulse Test : Pulse Width $\leq 300\mu S$, Duty Cycle $\leq 2.0\%$

KN222S/AS

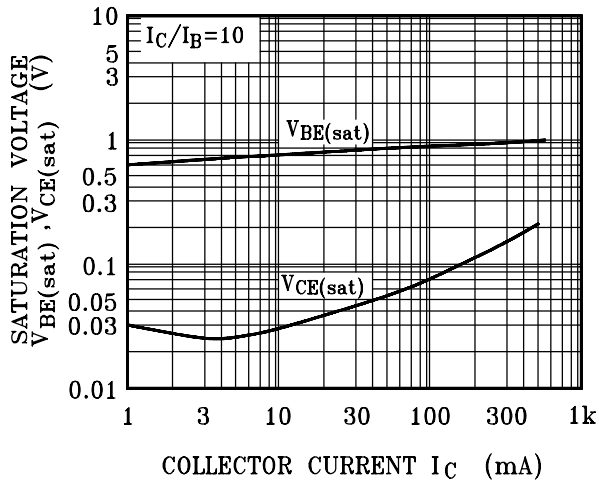
$h_{FE} - I_C$



$C_{ob} - V_{CB}$



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



$P_C - T_a$

