

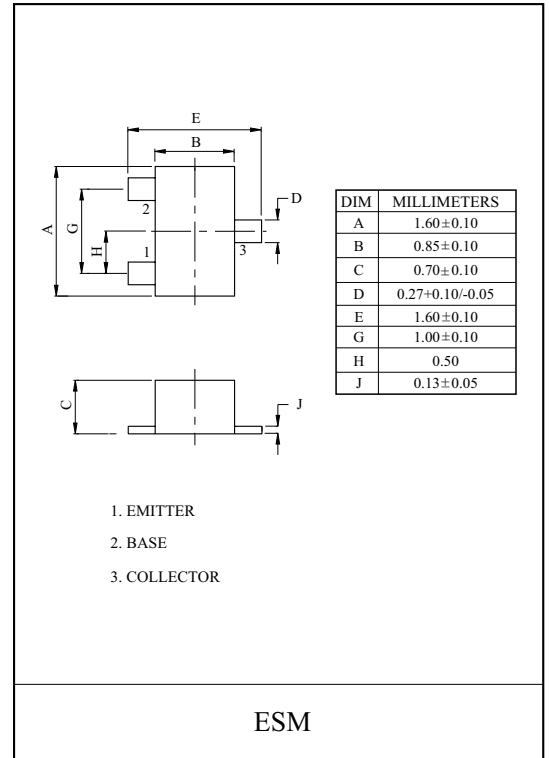
GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES

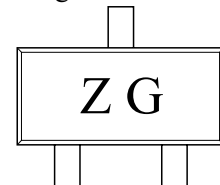
- Low Leakage Current
: $I_{CEX}=10\text{nA}(\text{Max.})$; $V_{CE}=60\text{V}$, $V_{EB(\text{OFF})}=3\text{V}$.
- Low Saturation Voltage
: $V_{CE(\text{sat})}=0.3\text{V}(\text{Max.})$; $I_C=150\text{mA}$, $I_B=15\text{mA}$.
- Complementary to KTN2907AE.

MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Collector Power Dissipation (Ta=25 °C)	P_C	100	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	



Marking



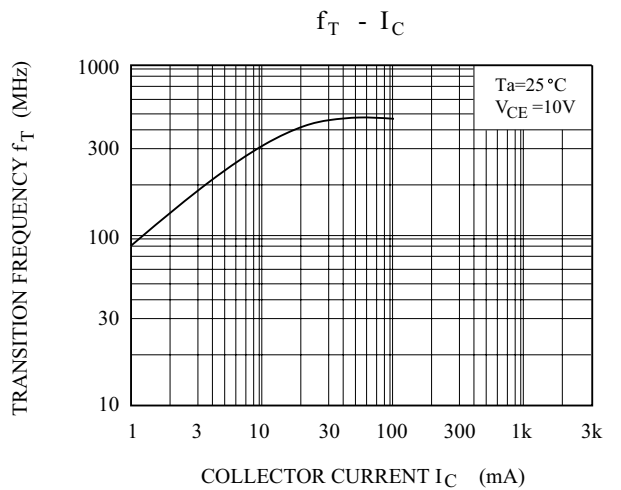
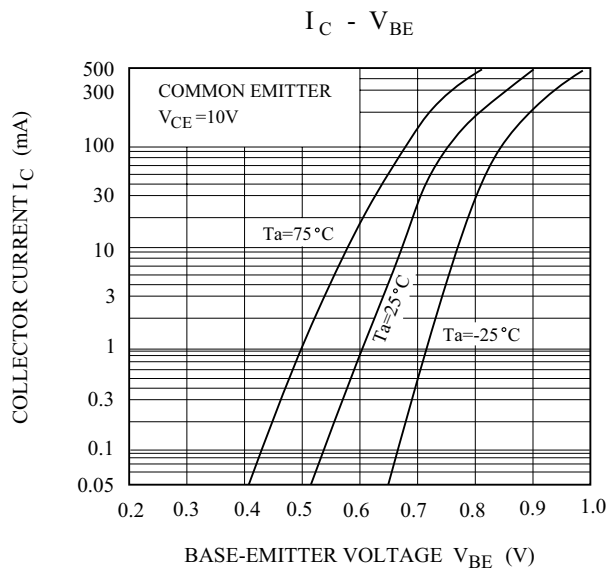
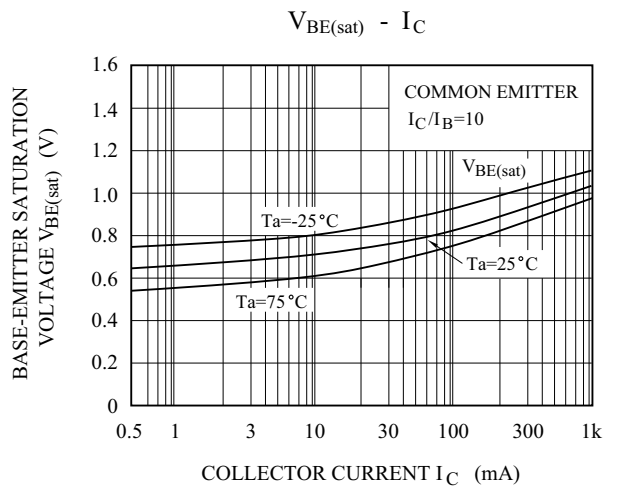
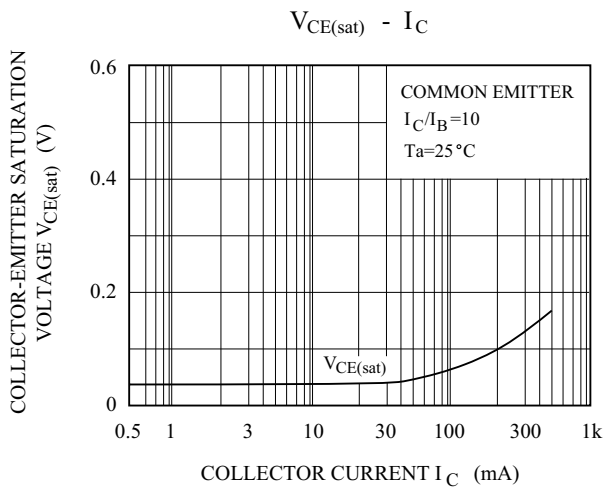
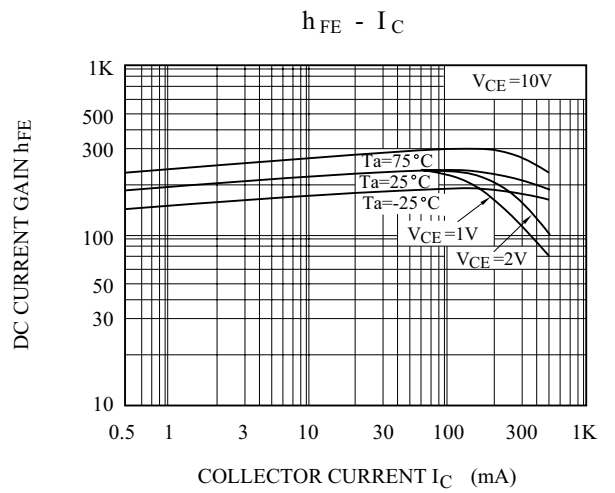
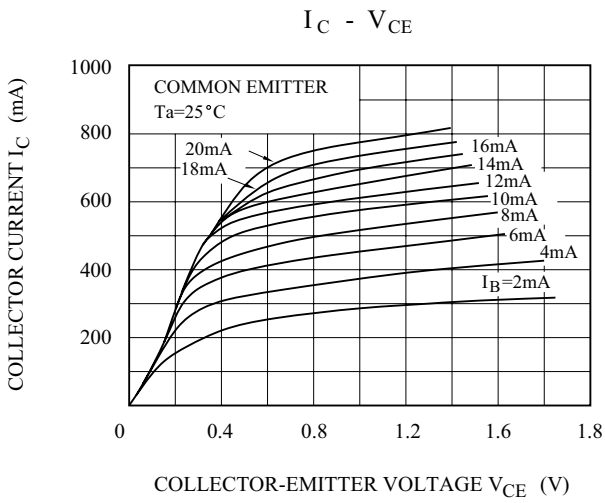
KTN2222AE

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CEX}	$V_{CE}=60V, V_{EB(OFF)}=3V$	-	-	10	nA	
Collector Cut-off Current	I_{CBO}	$V_{CB}=60V, I_E=0$	-	-	0.01	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB}=3V, I_C=0$	-	-	10	nA	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10 \mu A, I_E=0$	75	-	-	V	
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	40	-	-	V	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10 \mu A, I_C=0$	6	-	-	V	
DC Current Gain *	$h_{FE(1)}$	$I_C=0.1mA, V_{CE}=10V$	35	-	-		
	$h_{FE(2)}$	$I_C=1mA, V_{CE}=10V$	50	-	-		
	$h_{FE(3)}$	$I_C=10mA, V_{CE}=10V$	75	-	-		
	$h_{FE(4)}$	$I_C=150mA, V_{CE}=10V$	100	-	300		
	$h_{FE(5)}$	$I_C=500mA, V_{CE}=10V$	40	-	-		
Collector-Emitter Saturation Voltage *	$V_{CE(sat)1}$	$I_C=150mA, I_B=15mA$	-	-	0.3	V	
	$V_{CE(sat)2}$	$I_C=500mA, I_B=50mA$	-	-	1		
Base-Emitter Saturation Voltage *	$V_{BE(sat)1}$	$I_C=150mA, I_B=15mA$	0.6	-	1.2	V	
	$V_{BE(sat)2}$	$I_C=500mA, I_B=50mA$	-	-	2.0		
Transition Frequency	f_T	$V_{CE}=20V, I_C=20mA,$ $f=100MHz$	300	-	-	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$	-	-	8	pF	
Input Capacitance	C_{ib}	$V_{EB}=0.5V, I_C=0, f=1.0MHz$	-	-	25	pF	
Input Impedance	h_{ie}	$I_C=1mA, V_{CE}=10V, f=1kHz$	2	-	8	k	
		$I_C=10mA, V_{CE}=10V, f=1kHz$	0.25	-	1.25		
Voltage Feedback Ratio	h_{re}	$I_C=1mA, V_{CE}=10V, f=1kHz$	-	-	8	$\times 10^4$	
		$I_C=10mA, V_{CE}=10V, f=1kHz$	-	-	4		
Small-Signal Current Gain	h_{fe}	$I_C=1mA, V_{CE}=10V, f=1kHz$	50	-	300		
		$I_C=10mA, V_{CE}=10V, f=1kHz$	75	-	375		
Collector Output Admittance	h_{oe}	$I_C=1mA, V_{CE}=10V, f=1kHz$	5	-	35		
		$I_C=10mA, V_{CE}=10V, f=1kHz$	25	-	200		
Collector-Base Time Constant	$C_c \cdot r_{bb'}$	$I_E=20mA, V_{CB}=20V, f=31.8MHz$	-	-	150	pS	
Noise Figure	NF	$I_C=100 \mu A, V_{CE}=10V,$ $R_g=1k \Omega, f=1kHz$	-	-	4	dB	
Switching Time	Delay Time	t_d	$V_{CC}=30V, V_{BE(OFF)}=0.5V$	-	-	10	nS
	Rise Time	t_r	$I_C=150mA, I_{B1}=15mA$	-	-	25	
	Storage Time	t_{stg}	$V_{CC}=30V, I_C=150mA$	-	-	225	
	Fall Time	t_f	$I_{B1}=-I_{B2}=15mA$	-	-	60	

* Pulse Test : Pulse Width 300 μs , Duty Cycle 2%.

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