

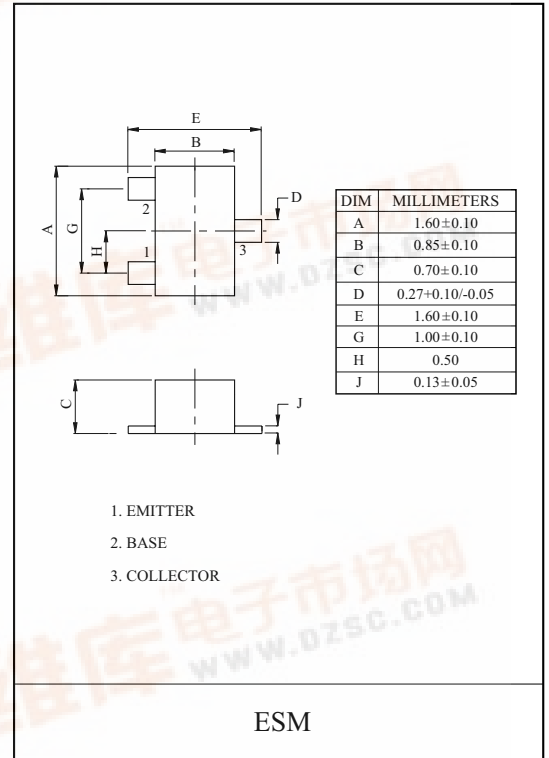
GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES

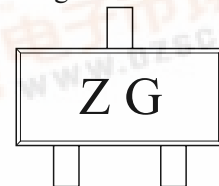
- Low Leakage Current
: $I_{CEX}=10nA(\text{Max.})$; $V_{CE}=60V$, $V_{EB(\text{OFF})}=3V$.
- Low Saturation Voltage
: $V_{CE(\text{sat})}=0.3V(\text{Max.})$; $I_C=150mA$, $I_B=15mA$.
- Complementary to KTN2907AE.

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	°C
Storage Temperature Range	T_{stg}	-55~150	°C



Marking



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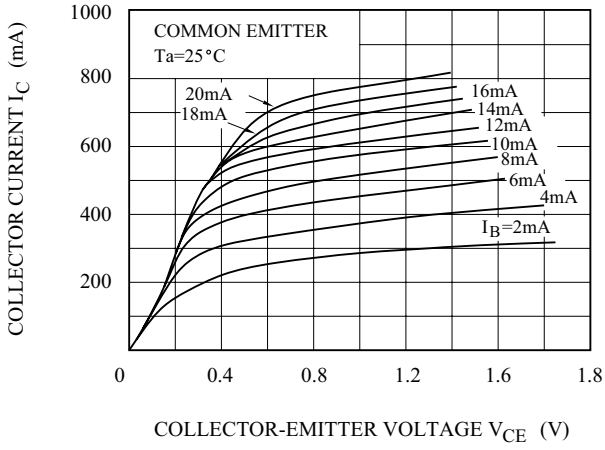
ELECTRICAL CHARACTERISTICS (Ta=25 °C)

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 Ω
			$I_C=10mA, V_{CE}=10V, f=1kHz$	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	$I_C=100\mu A, V_{CE}=10V,$	-	-	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	

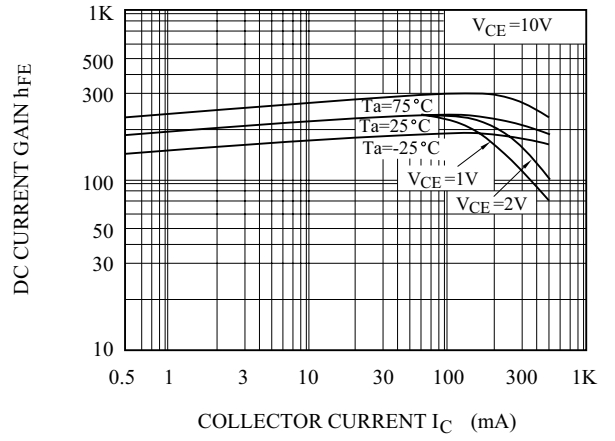
* Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

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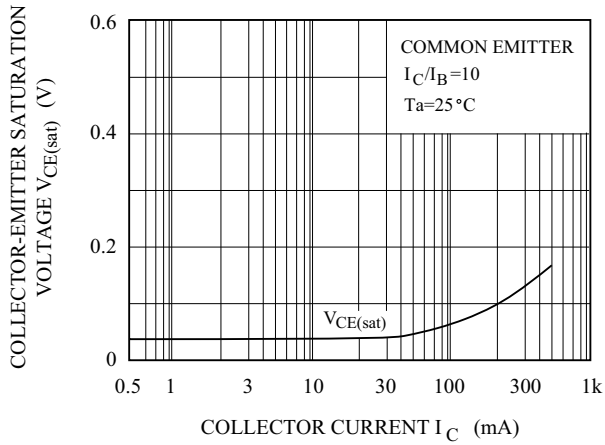
$I_C - V_{CE}$



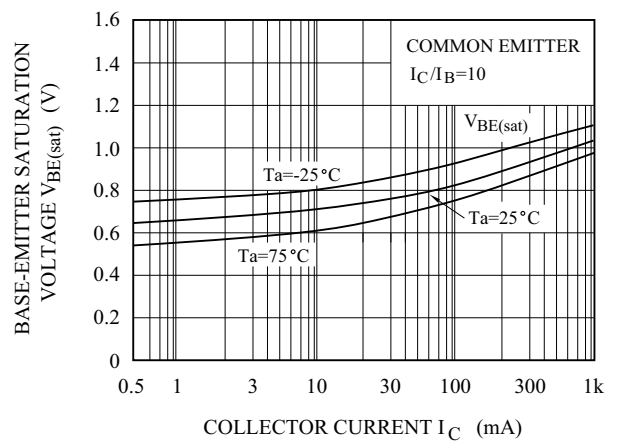
$h_{FE} - I_C$



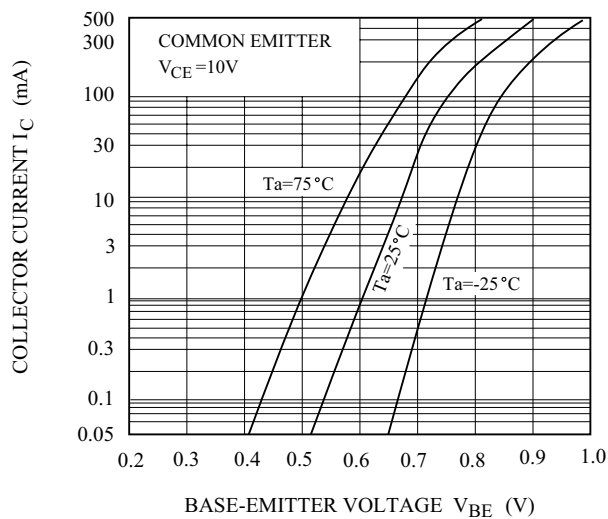
$V_{CE(sat)} - I_C$



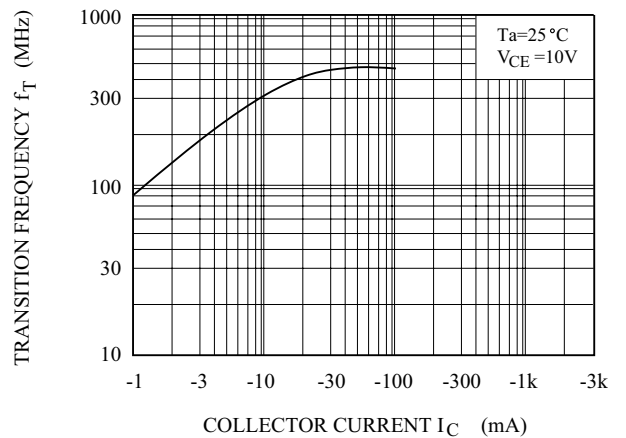
$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



$f_T - I_C$



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