

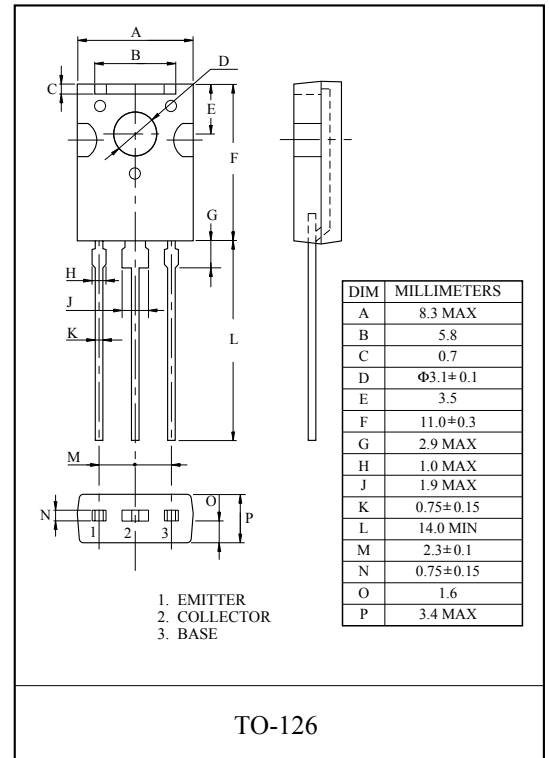
LOW FREQUENCY POWER AMP,  
MEDIUM SPEED SWITCHING APPLICATIONS

### FEATURES

- High breakdown voltage  $V_{CE0}$  120V, high current 1A.
- Low saturation voltage and good linearity of  $h_{FE}$ .

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	-120	V
Collector-Emitter Voltage		$V_{CEO}$	-120	V
Emitter-Base Voltage		$V_{EBO}$	-5	V
Collector Current		$I_C$	-1	A
		$I_{CP}$	-2	
Collector Power Dissipation	$T_a=25^\circ\text{C}$	$P_C$	1.5	W
	$T_c=25^\circ\text{C}$		8	
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55 ~ 150	$^\circ\text{C}$



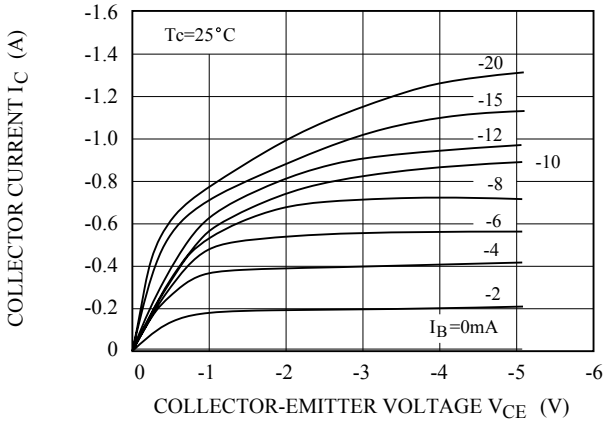
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut of Current		$I_{CBO}$	$V_{CB}=-50\text{V}, I_E=0$	-	-	-1	$\mu\text{A}$
Emitter Cut of Current		$I_{EBO}$	$V_{EB}=-4\text{V}, I_C=0$	-	-	-1	$\mu\text{A}$
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$	-120	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=-1\text{mA}$	-120	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$	-5	-	-	V
DC Current Gain	$h_{FE}(1)$ Note		$V_{CE}=-5\text{V}, I_C=-50\text{mA}$	100	-	320	
	$h_{FE}(2)$		$V_{CE}=-5\text{V}, I_C=-500\text{mA}$	20	-	-	
Gain Bandwidth Product		$f_T$	$V_{CE}=-10\text{V}, I_C=-50\text{mA}$	-	110	-	MHz
Output Capacitance		$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$	-	30	-	pF
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$	-	-0.15	-0.4	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$	-	-0.85	-1.2	V
Switching Time	Turn-on Time	$t_{on}$	<p><math>V_{CE}=-12\text{V}</math> <math>I_C=10\text{mA}, I_{B1}=-10\text{mA}, I_{B2}=50\text{mA}</math></p>	-	80	-	nS
	Turn-off Time	$t_{off}$		-	100	-	
	Storage Time	$t_{stg}$		-	600	-	

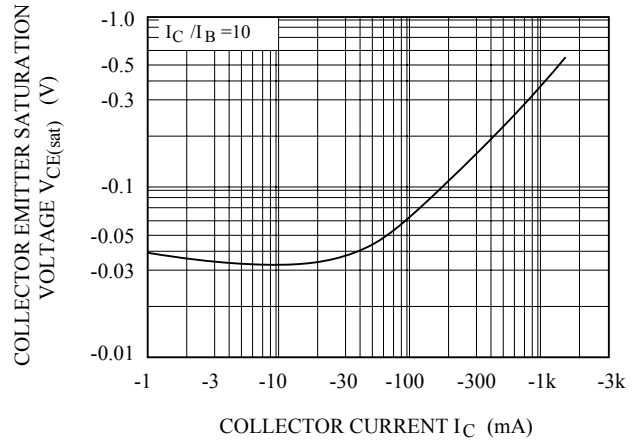
Note :  $h_{FE}(1)$  Classification Y:100~200, GR:160~320

# KTB631K

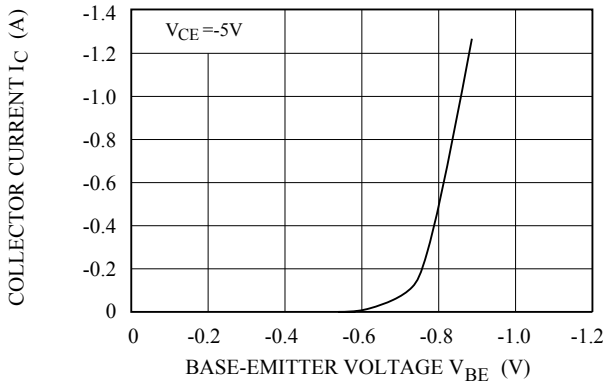
$V_{CE} - I_C$



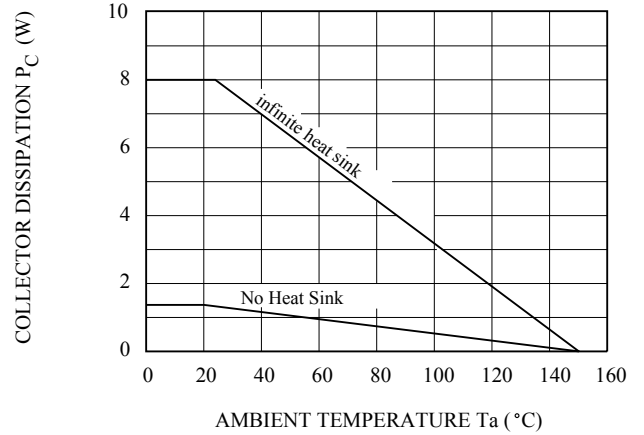
$V_{CE(sat)} - I_C$



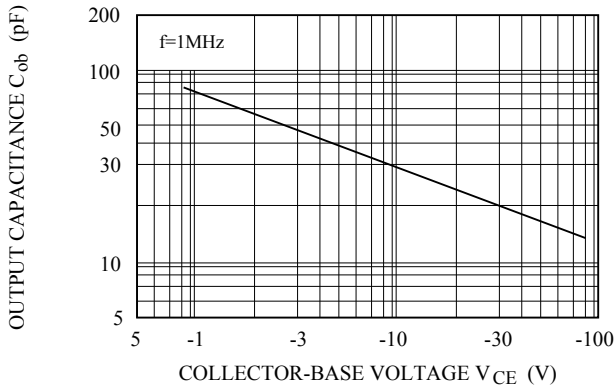
$V_{BE} - I_C$



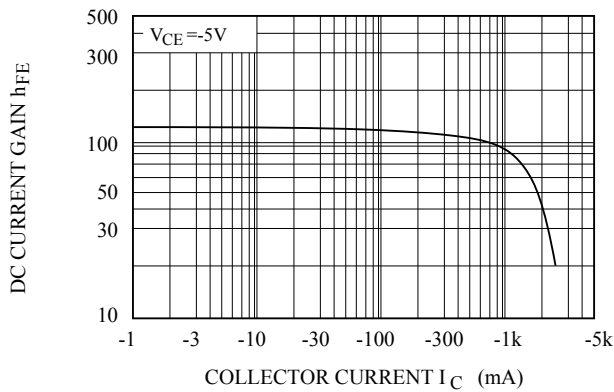
$P_c - T_a$



$C_{ob} - V_{CB}$



$h_{FE} - I_C$



A S O

