

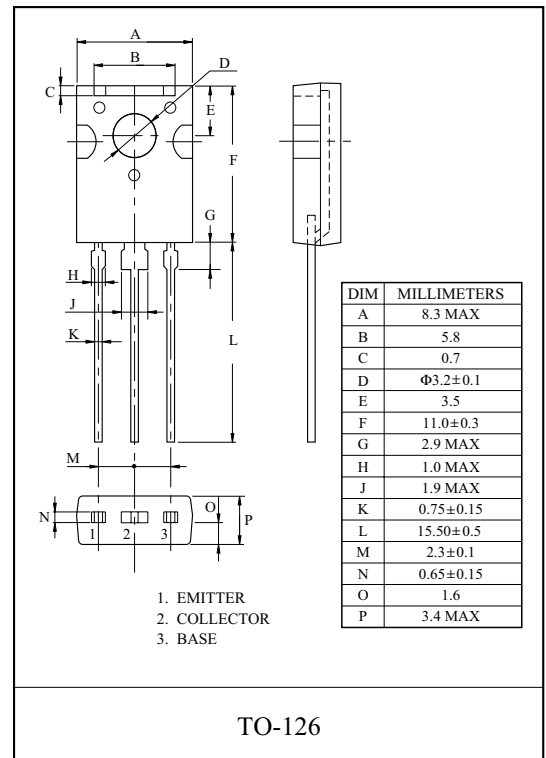
LOW FREQUENCY POWER AMP,  
MEDIUM SPEED SWITCHING APPLICATIONS

### FEATURES

- High breakdown voltage  $V_{CE0}$  120V, high current 1A.
- Low saturation voltage and good linearity of  $h_{FE}$ .
- Complementary to KTB631K.

### 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	$^\circ\text{C}$



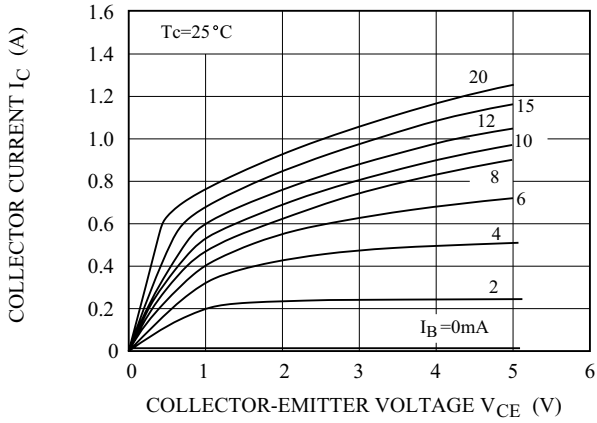
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut of Current		$I_{CBO}$	$V_{CB}=50V, I_E=0$	-	-	1	$\mu\text{A}$
Emitter Cut of Current		$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	1	$\mu\text{A}$
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	120	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	120	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5	-	-	V
DC Current Gain	$h_{FE}(1)$ Note		$V_{CE}=5V, I_C=50\text{mA}$	100	-	320	
	$h_{FE}(2)$		$V_{CE}=5V, I_C=500\text{mA}$	20	-	-	
Gain Bandwidth Product		$f_T$	$V_{CE}=10V, I_C=50\text{mA}$	-	130	-	MHz
Output Capacitance		$C_{ob}$	$V_{CB}=10V, f=1\text{MHz}, I_E=0$	-	20	-	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}=12V</math> <math>I_C=10I_{B1}=-10I_{B2}=500\text{mA}</math></p>	-	100	-	nS
	Turn-off Time	$t_{off}$		-	500	-	
	Storage Time	$t_{stg}$		-	700	-	

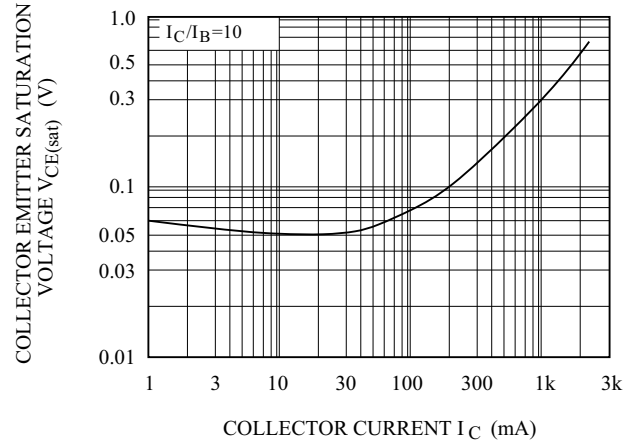
Note :  $h_{FE}(1)$  Classification Y:100 ~ 200, GR:160 ~ 320

# KTD600K

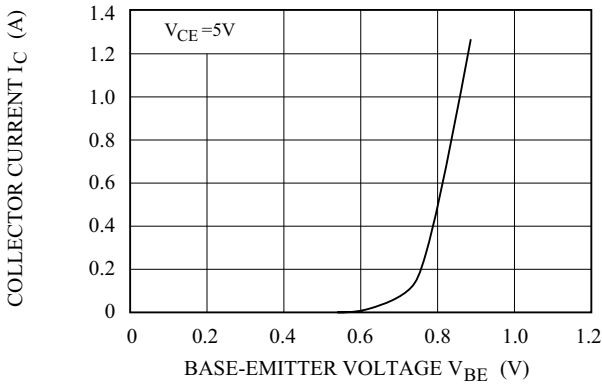
$I_C - V_{CE}$



$V_{CE(sat)} - I_C$



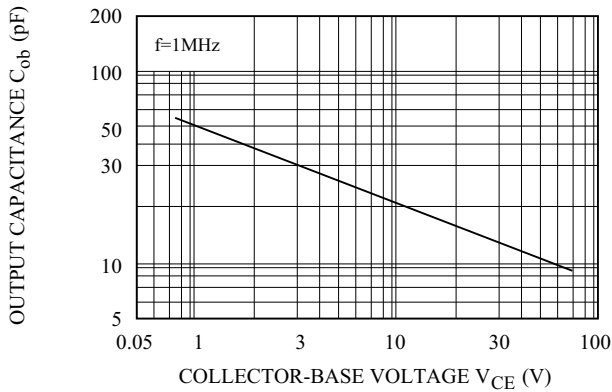
$V_{BE} - I_C$



COLLECTOR CURRENT  $I_C$  (A)

BASE-EMITTER VOLTAGE  $V_{BE}$  (V)

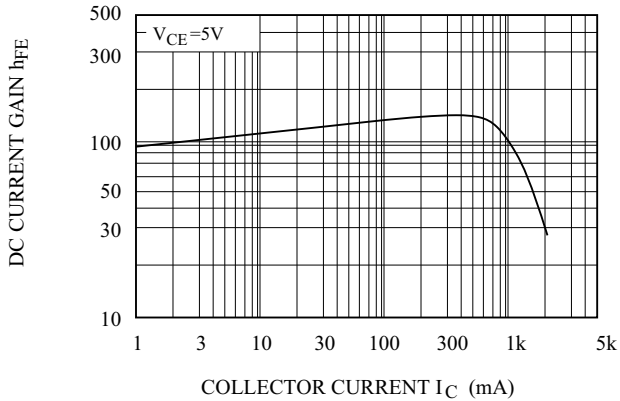
$C_{ob} - V_{CB}$



OUTPUT CAPACITANCE  $C_{ob}$  (pF)

COLLECTOR-BASE VOLTAGE  $V_{CB}$  (V)

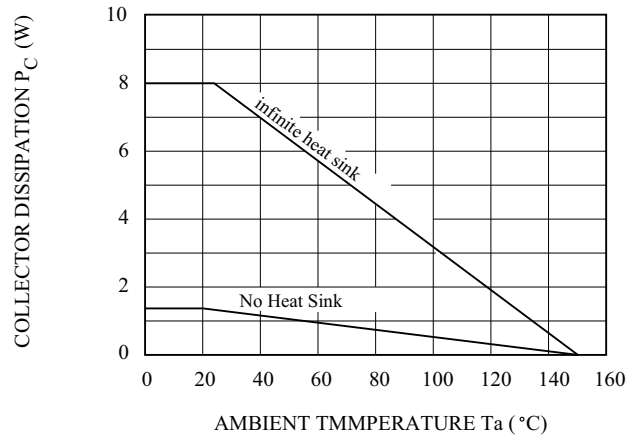
$h_{FE} - I_C$



DC CURRENT GAIN  $h_{FE}$

COLLECTOR CURRENT  $I_C$  (mA)

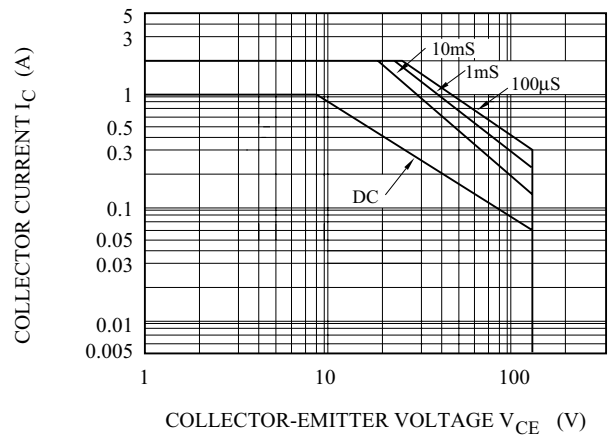
$P_c - T_a$



COLLECTOR DISSIPATION  $P_C$  (W)

AMBIENT TEMPERATURE  $T_a$  ( $^\circ\text{C}$ )

A S O



COLLECTOR CURRENT  $I_C$  (A)

COLLECTOR-EMITTER VOLTAGE  $V_{CE}$  (V)

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