



## SOT-23 Plastic-Encapsulate Transistors

**KTC3875** TRANSISTOR (NPN)

### FEATURES

- High  $h_{FE}$
- Low noise
- Complementary to KTA1504



### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	150	mA
$P_C$	Collector Power Dissipation	150	mW
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

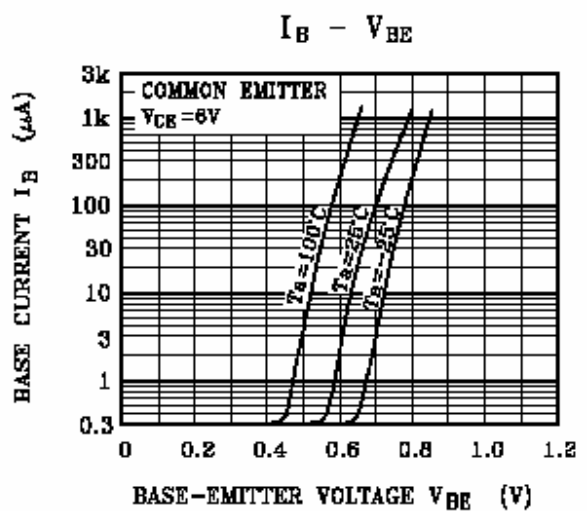
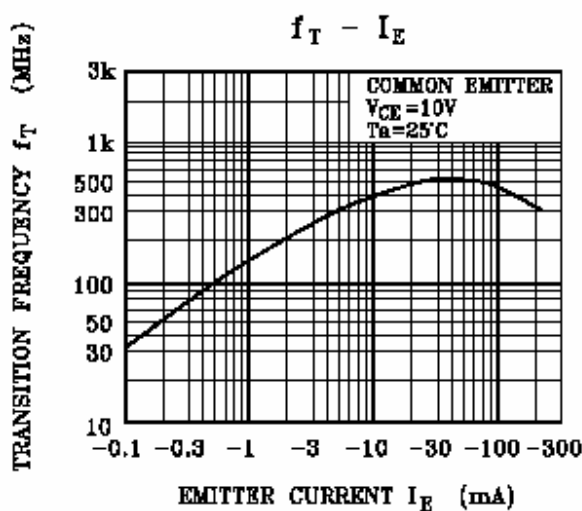
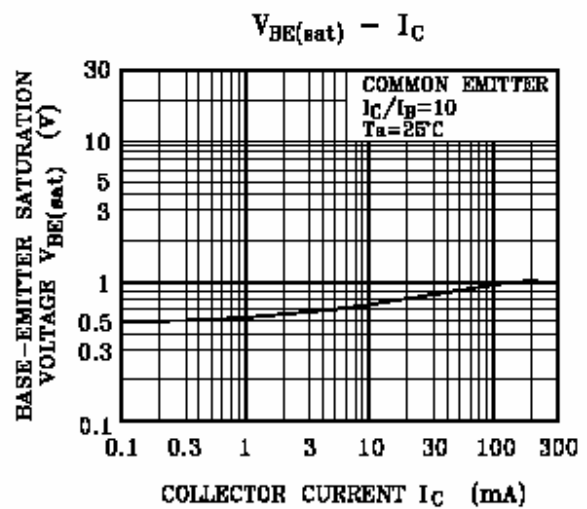
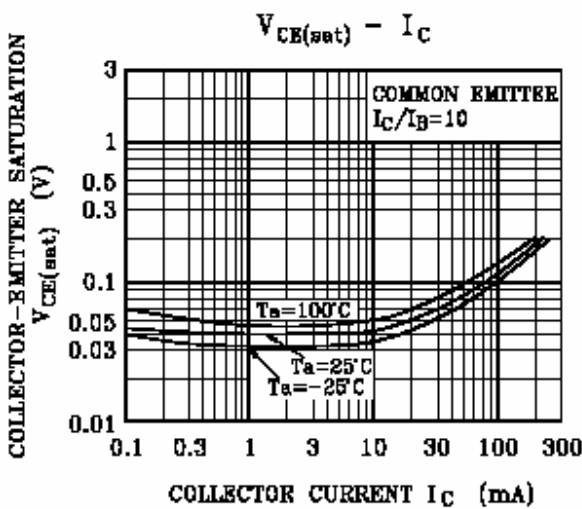
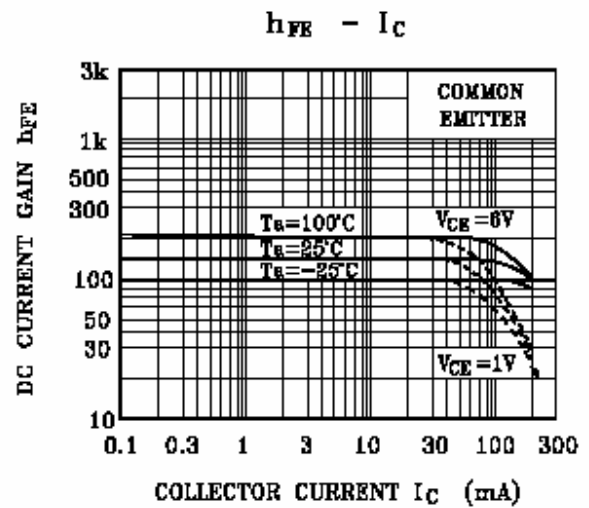
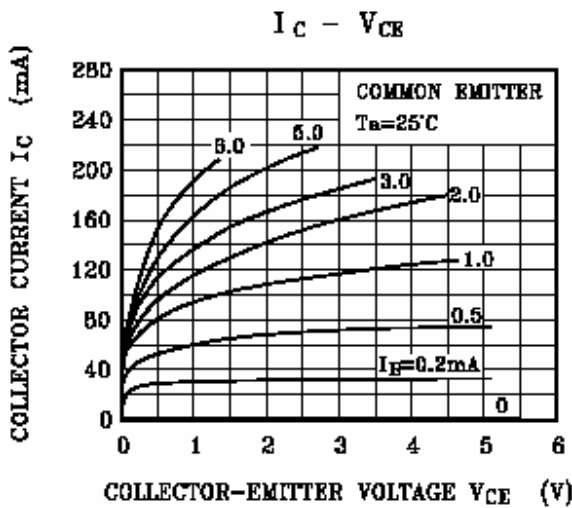
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=6\text{V}, I_C=2\text{mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.1	0.25	V
base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	80			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2.0	3.5	pF
Noise figure	NF	$V_{CE}=6\text{V}, I_C=0.1\text{mA}, R_g=10\text{k}\Omega, f=1\text{KHz}$		1.0	10	dB

### CLASSIFICATION OF $h_{FE}$

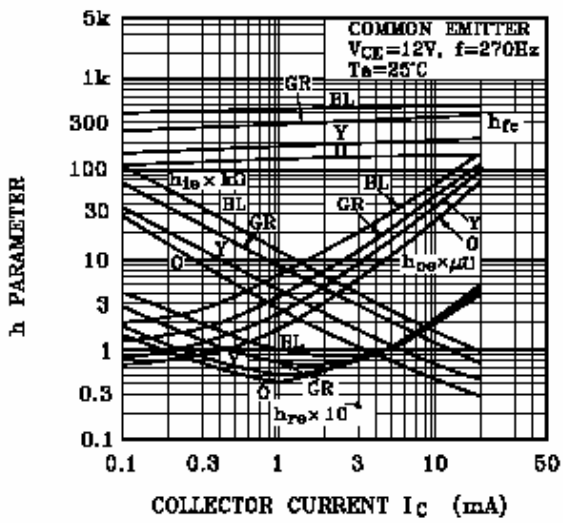
Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700
Marking	ALO	ALY	ALG	ALL

# Typical Characteristics

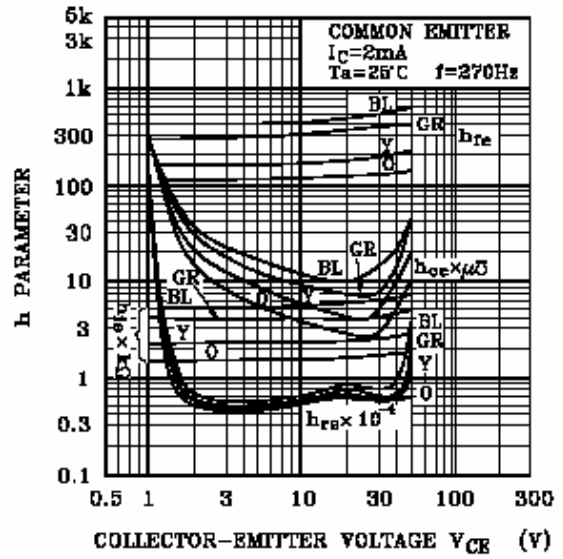
KTC3875



h PARAMETER -  $I_C$



h PARAMETER -  $V_{CE}$



$P_C$  -  $T_a$

