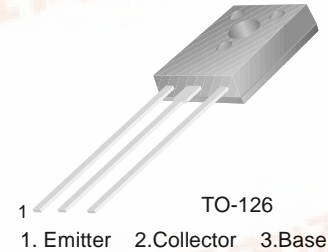


**FAIRCHILD**  
SEMICONDUCTOR™

## KSA1406

### CRT Display, Video Output

- High Current Gain Bandwidth Product :  $f_T = 400\text{MHz}$  (Typ.)
- High Collector-Base Breakdown Voltage :  $V_{CBO} = -200\text{V}$
- Low Reverse Transfer Capacitance :  $C_{re} = 1.7\text{pF}$  (Typ.)



### PNP Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	- 200	V
$V_{CEO}$	Collector-Emitter Voltage	- 200	V
$V_{EBO}$	Emitter-Base Voltage	- 4	V
$I_C$	Collector Current (DC)	- 100	mA
$I_{CP}$	Collector Current (Pulse)	- 200	mA
$P_C$	Collector Dissipation ( $T_a = 25^\circ\text{C}$ )	1.2	W
$P_C$	Collector Dissipation ( $T_C = 25^\circ\text{C}$ )	7	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

#### Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu\text{A}, I_B = 0$	- 200			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, R_{BE} = \infty$	- 200			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	- 4			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -150\text{V}, I_C = 0$			- 0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = -2\text{V}, I_E = 0$			- 0.1	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = -10\text{V}, I_C = -10\text{mA}$ $V_{CE} = -10\text{V}, I_C = -60\text{mA}$	40 20		120	
$V_{CE}(\text{Sat})$	Collector-Emitter Saturation Voltage	$I_C = -30\text{mA}, I_E = -3\text{mA}$			- 0.8	V
$V_{BE}(\text{Sat})$	Base-Emitter Saturation Voltage	$I_C = -30\text{mA}, I_E = -3\text{mA}$			- 1.8	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -30\text{V}, I_C = -30\text{mA}$		400		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -30\text{V}, f = 1\text{MHz}$		2.3		pF
$C_{re}$	Reverse Transfer Capacitance	$V_{CB} = -30\text{V}, f = 1\text{MHz}$		1.7		pF

#### \* $h_{FE}$ Classification

Classification	C	D
$h_{FE1}$	40 ~ 80	60 ~ 120



# Typical Characteristics

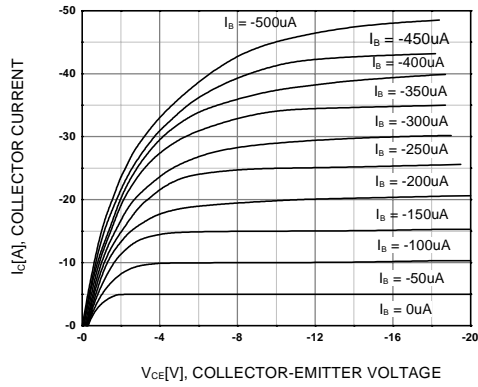


Figure 1. Static Characteristic

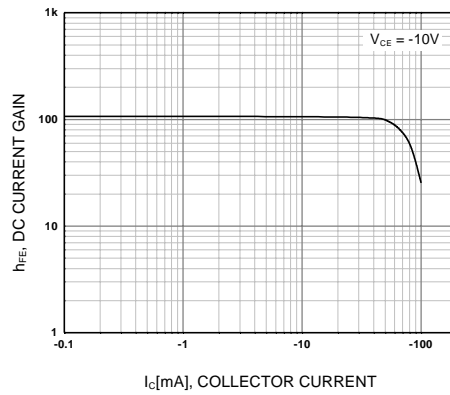


Figure 2. DC current Gain

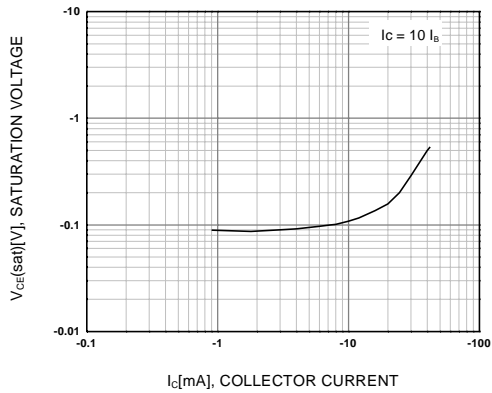


Figure 3. Collector-Emitter Saturation Voltage

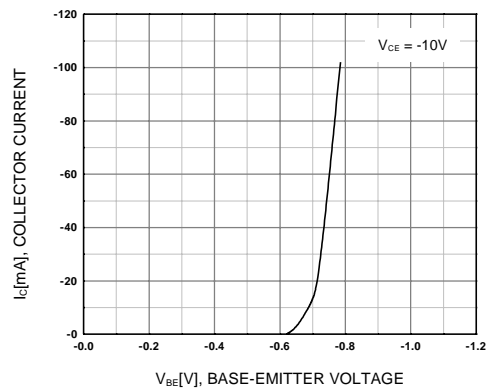


Figure 4. Base-Emitter On Voltage

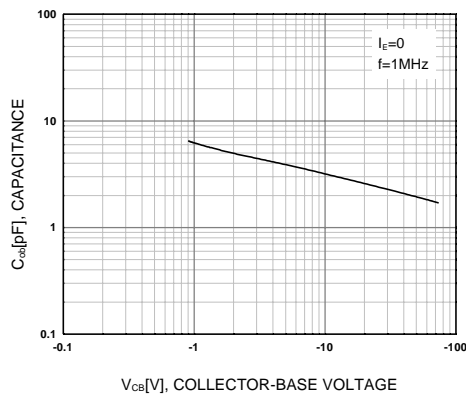


Figure 5. Collector Output Capacitance

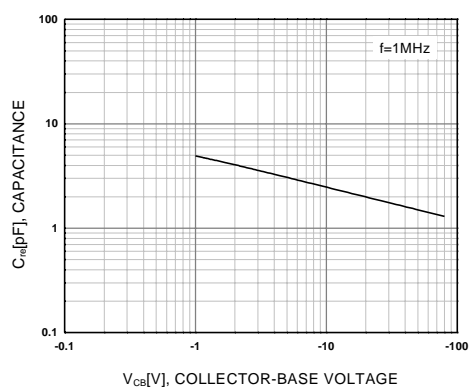


Figure 6. Reverse Capacitance

Typical Characteristics (Continued)

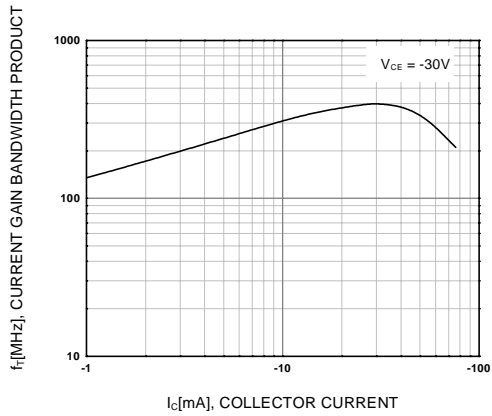


Figure 7. Current Gain Bandwidth Product

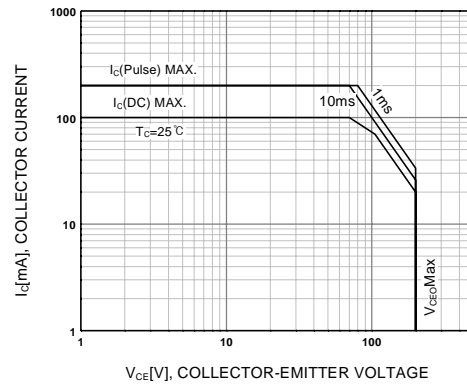


Figure 8. Safe Operating Area

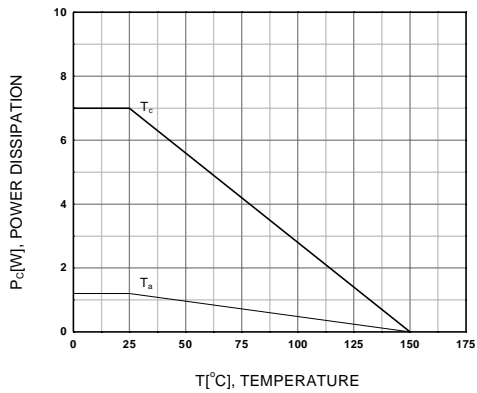
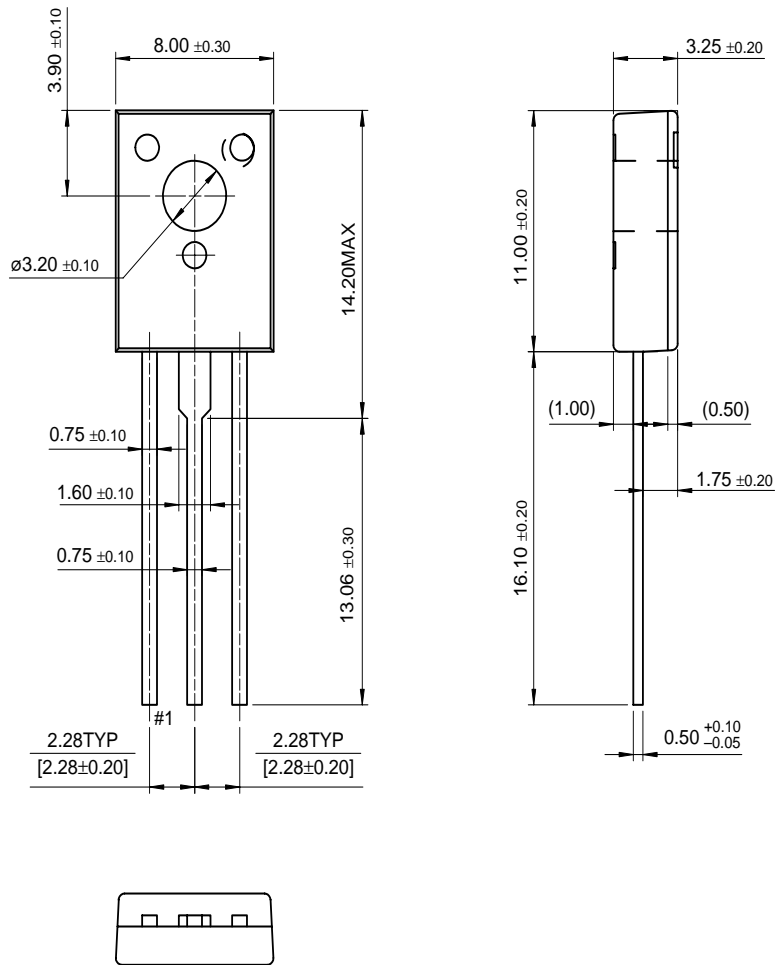


Figure 9. Power Derating

# Package Dimensions

KSA1406

## TO-126



Dimensions in Millimeters

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CoolFET™	MICROWIRE™	TinyLogic™
CROSSVOLT™	POPT™	UHC™
E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QST™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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Datasheet Identification	Product Status	Definition
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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