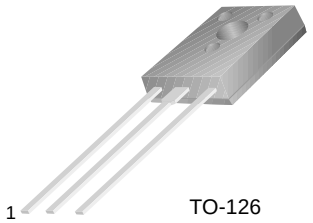
FAIRCHILD SEMICONDUCTOR™

KSC3953

CRT Display Video Output

- High Current Gain Bandwidth Product : f_T=400MHz(Typ.)
- High Collector-Emitter Voltage : V_{CEO}=120V
- Low Reverse Transfer Capacitance : C_{re}=1.7pF(Typ.)



TO-126

1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current (DC)	200	mA
I_{CP}	Collector Current (Pulse)	400	mA
P_C	Collector Dissipation (T_a=25°C)	1.3	W
P_C	Collector Dissipation (T_C=25°C)	8	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 10μA, I_B = 0	120			V
BV_{EBO}	Collector-Emitter Breakdown Voltage	I_C = 1mA, R_{BE} = ∞	120			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100μA, I_C = 0	3			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 80V, I_E = 0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 2V, I_C = 0			1.0	μA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = 10V, I_C = 10mA V_{CE} = 10V, I_C = 100mA	40 20		120	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 30mA, I_B = 3mA			1.0	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 30mA, I_B = 3mA			1.0	V
f_T	Current Gain Bandwidth Product	V_{CE} = 10V,I_C = 50mA		400		MHz
C_{ob}	Output Capacitance	V_{CB} = 30V, f = 1MHz		2.1		pF
C_{re}	Reverse Transfer Capacitance	V_{CB} = 30V, f = 1MHz		1.7		pF

h_{FE} Classificntion

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

Typical Characteristics

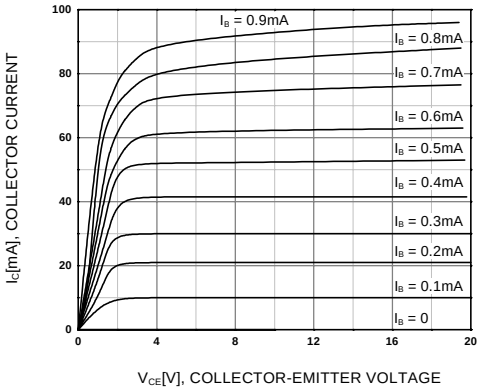


Figure 1. Static Characteristic

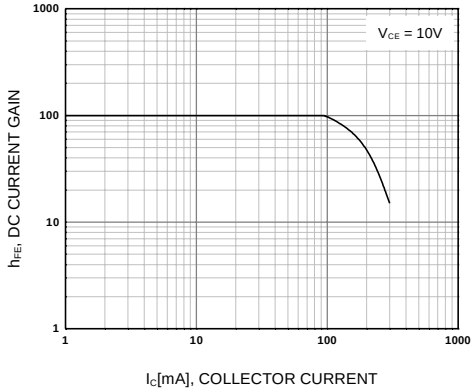


Figure 2. DC current Gain

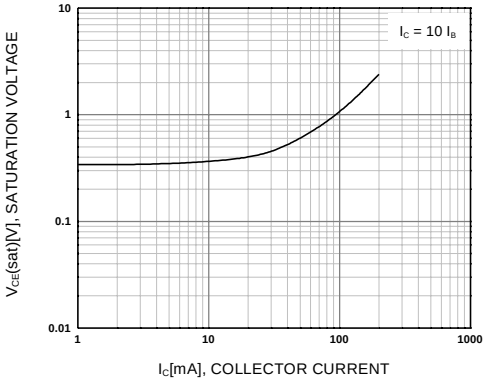


Figure 3. Collector-Emitter Saturation Voltage

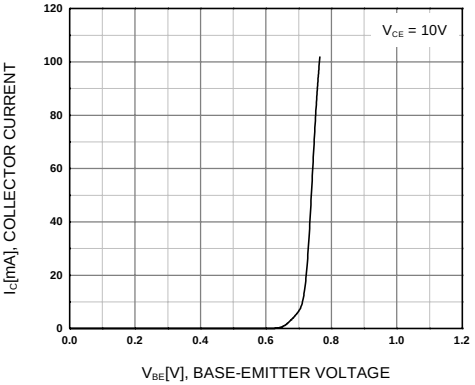


Figure 4. Base-Emitter On Voltage

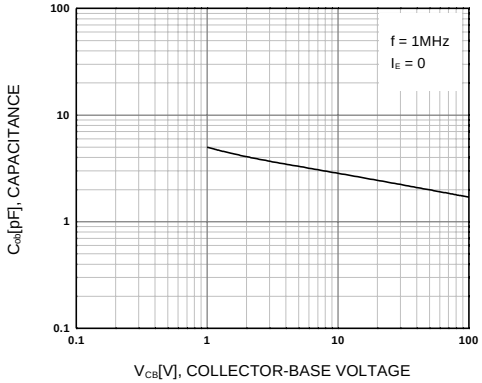


Figure 5. Collector Output Capacitance

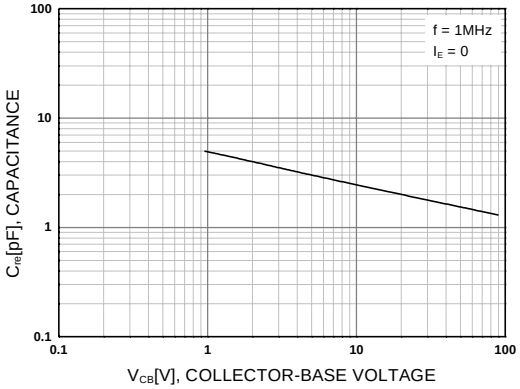


Figure 6. Reverse Capacitance

Typical Characteristics (Continued)

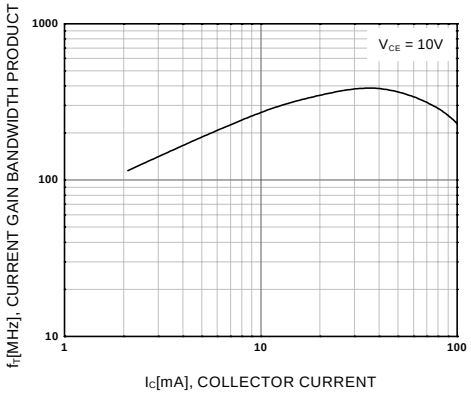


Figure 7. Current Gain Bandwidth Product

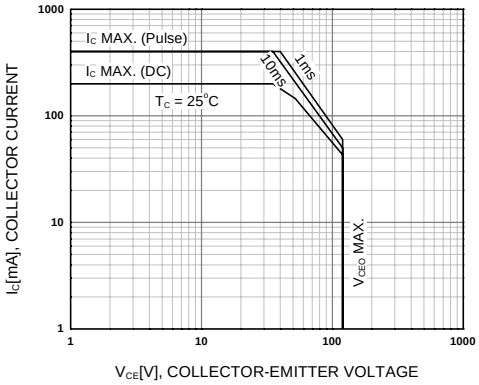


Figure 8. Safe Operating Area

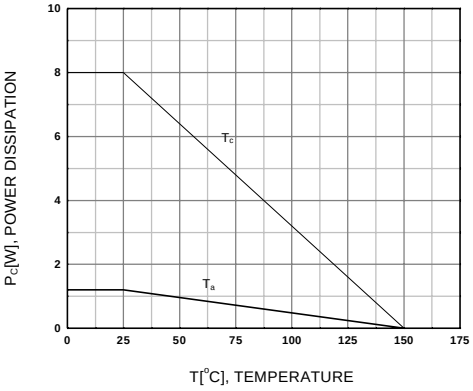


Figure 9. Power Derating

Package Demensions

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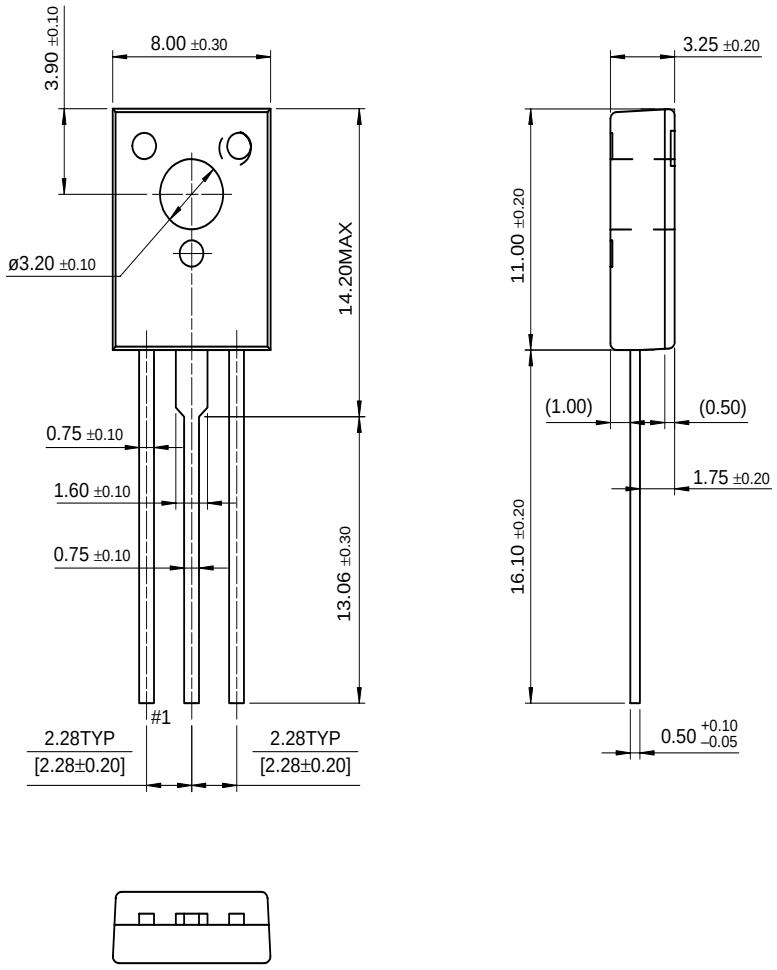

Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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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.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

KSC3953
NPN Epitaxial Silicon Transistor

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Features

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- High Collector-Emitter Voltage: $V_{CEO=120V}$
- Low Reverse Transfer Capacitance: C_{re}=1.7pF (Typ.)

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Applications

CRT Display Video Output

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
KSC3953DSTU	Full Production	$0.164	TO-126	3	RAIL
KSC3953CS	Full Production	$0.164	TO-126	3	BULK
KSC3953CSTU	Full Production	$0.164	TO-126	3	RAIL
KSC3953DS	Full Production	$0.164	TO-126	3	BULK

* 1,000 piece Budgetary Pricing

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