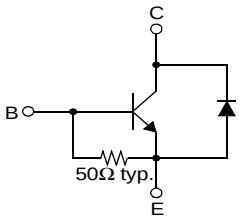
FAIRCHILD SEMICONDUCTOR™

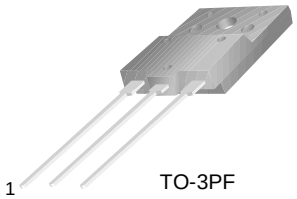
KSD5701

High Voltage Color Display Horizontal Deflection Output (Damper Diode Built In)

- High Collector-Base Voltage : V_{CBO}=1500V
- High Switching Speed : t_F = 0.4μs (Max.)
- For Color TV

Equivalent Circuit





TO-3PF

1.Base 2.Collector 3.Emitter

NPN Triple Diffused Planar Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	3.5	A
I_{CP}	Collector Current (Pulse)	10	A
P_C	Collector Dissipation (T_C=25°C)	50	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
I_{CBO}	Collector Cut-off Current	V_{CB} = 800V, I_E = 0			10	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V, I_C = 0	40		250	mA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = 5V, I_C = 0.5A V_{CE} = 5V, I_C = 2.5A	10 2.5		30	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 2.5A, I_B = 0.8A			5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 2.5A, I_B = 0.8A			1.5	V
f_T	Current Gain Bandwidth Product	V_{CE} = 10V, I_C = 0.5A		3		MHz
V_F	Damper Diode Turn On Voltage	I_F = 3.5A			2	V
t_F	Fall Time	V_{CC} = 200V, I_C = 3A I_{B1} = 0.8A, I_{B2} = - 1.6A R_L = 66.7Ω			0.4	μs

Typical Characteristics

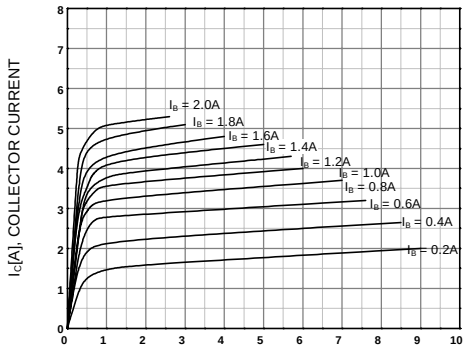


Figure 1. Static Characteristic

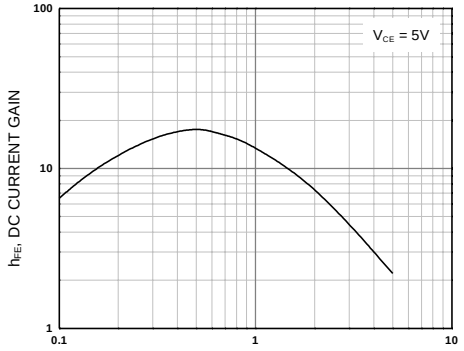


Figure 2. DC current Gain

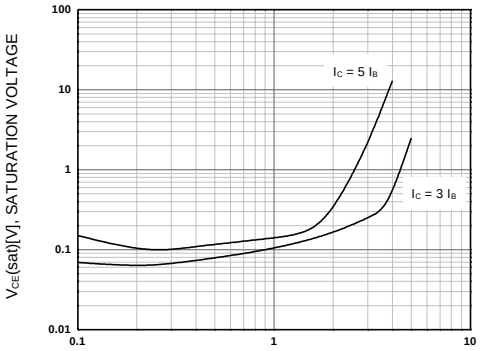


Figure 3. Collector-Emitter Saturation Voltage

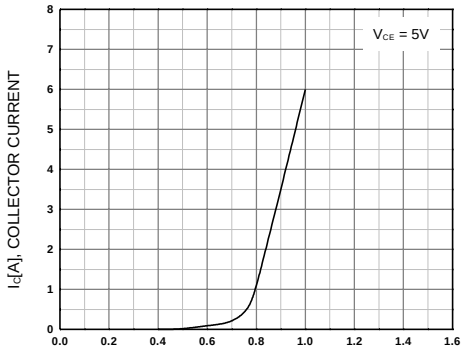


Figure 4. Base-Emitter On Voltage

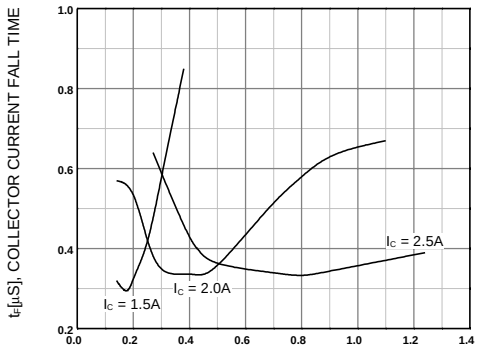


Figure 5. Switching Characteristic 1

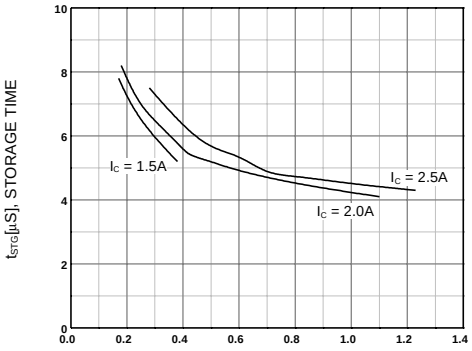


Figure 6. Switching Characteristic 2

Typical Characteristics (Continued)

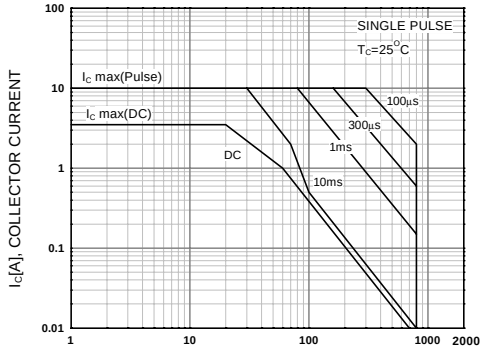


Figure 7. Safe Operating Area

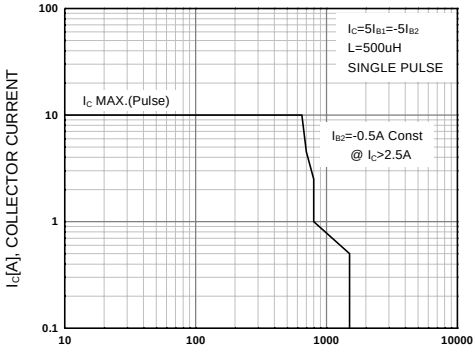


Figure 8. Reverse Bias Safe Operating Area

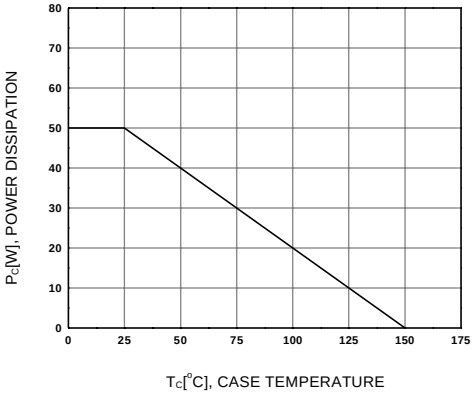
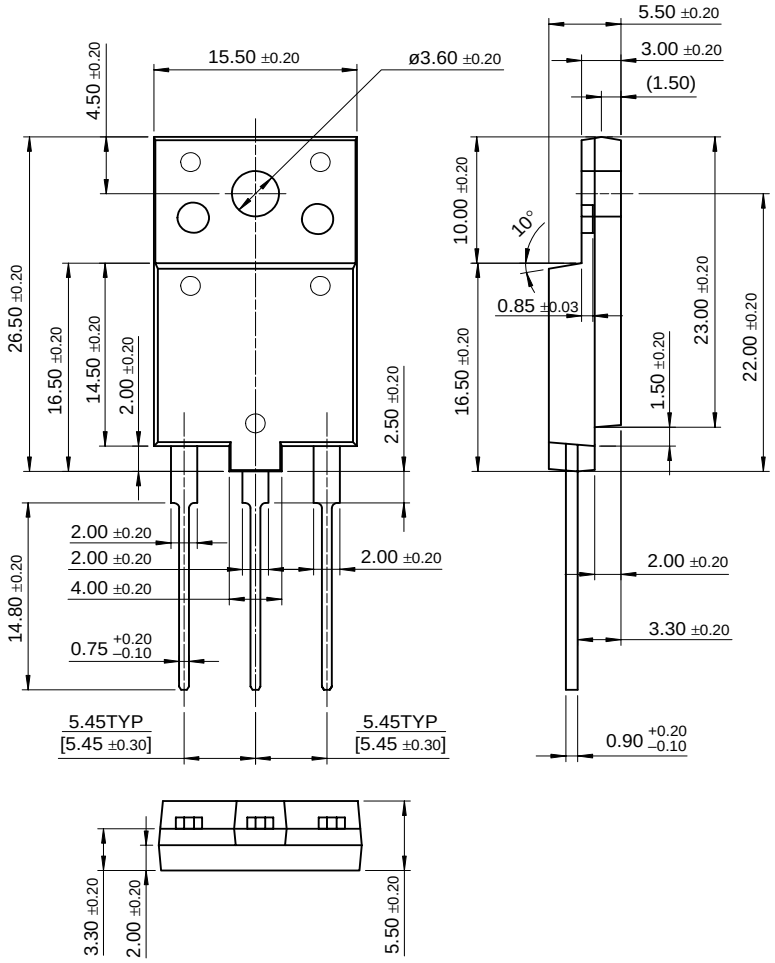


Figure 9. Power Derating

Package Demensions

TO-3PF



Dimensions in Millimeters

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