

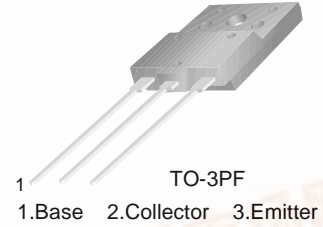
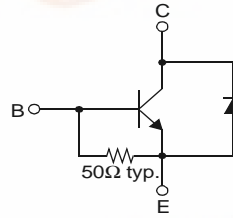
**FAIRCHILD**  
SEMICONDUCTOR™

## KSD5701

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

- High Collector-Base Voltage :  $V_{CBO}=1500V$
- High Switching Speed :  $t_f = 0.4\mu s$  (Max.)
- For Color TV

Equivalent Circuit



### NPN Triple Diffused Planar Silicon Transistor

#### Absolute Maximum Ratings $T_C=25^\circ C$ 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 ( $T_C=25^\circ C$ )	50	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 800V, I_E = 0$			10	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 4V, I_C = 0$	40		250	mA
$h_{FE1}$	DC Current Gain	$V_{CE} = 5V, I_C = 0.5A$	10		30	
$h_{FE2}$		$V_{CE} = 5V, I_C = 2.5A$	2.5			
$V_{CE(sat)}$	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	$V_{CC} = 200V, I_C = 3A$ $I_{B1} = 0.8A, I_{B2} = - 1.6A$ $R_L = 66.7\Omega$			0.4	$\mu s$



# Typical Characteristics

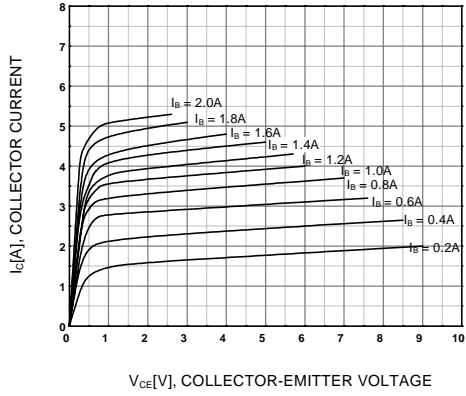


Figure 1. Static Characteristic

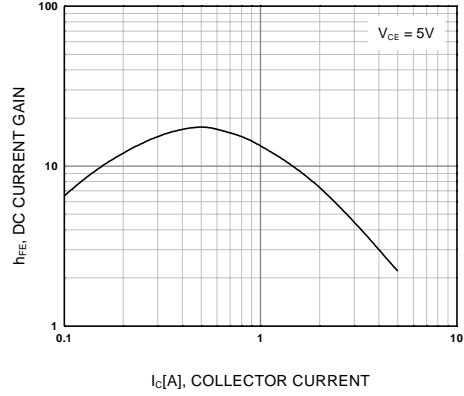


Figure 2. DC current Gain

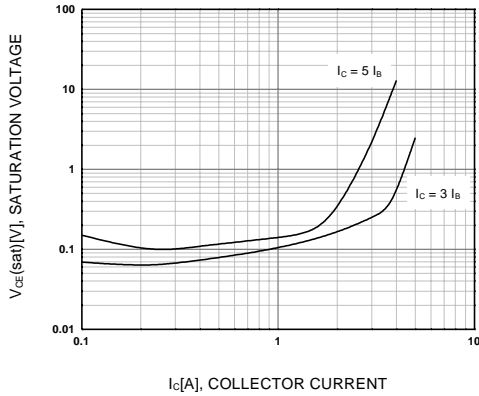


Figure 3. Collector-Emitter Saturation Voltage

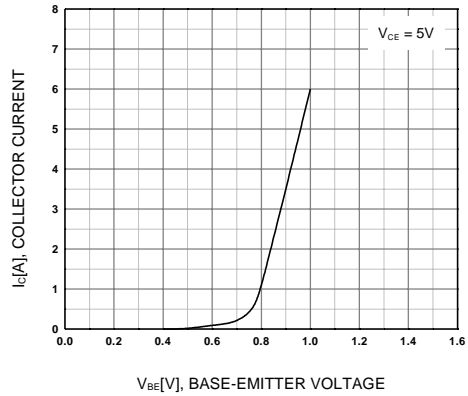


Figure 4. Base-Emitter On Voltage

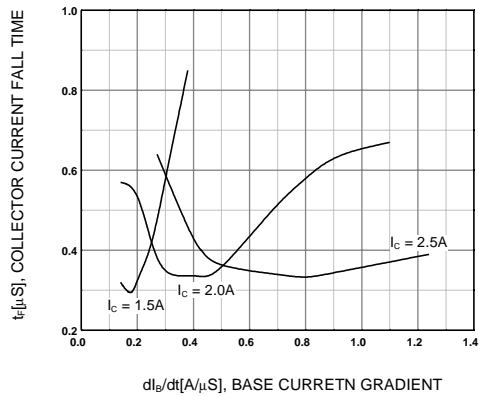


Figure 5. Switching Characteristic 1

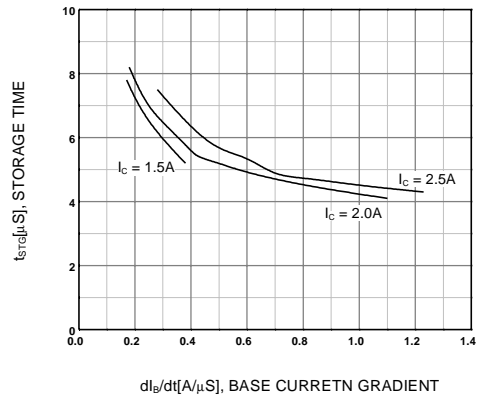


Figure 6. Switching Characteristic 2

Typical Characteristics (Continued)

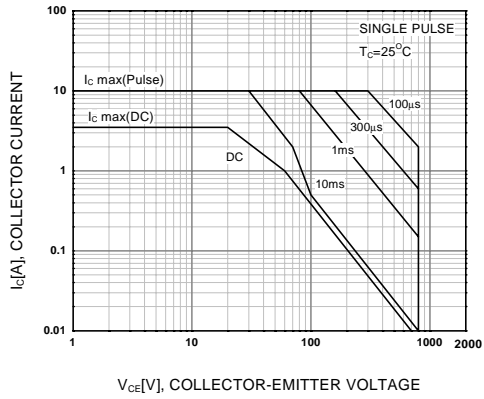


Figure 7. Safe Operating Area

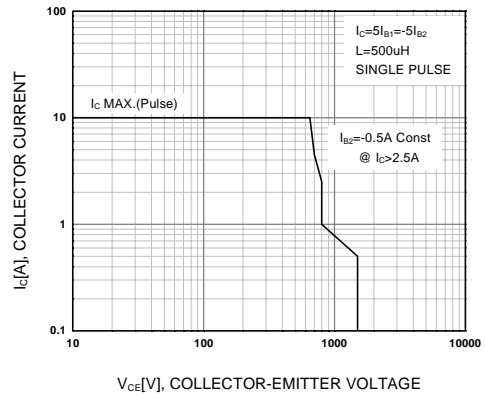


Figure 8. Reverse Bias Safe Operating Area

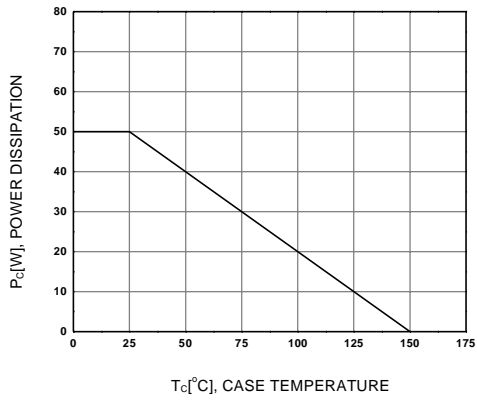


Figure 9. Power Derating



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