



# TT2190LS

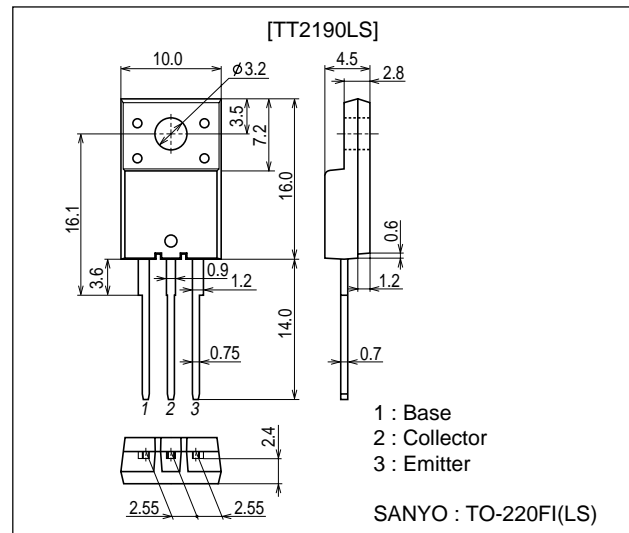
## Color TV Horizontal Deflection Output Applications

### Features

- High speed.
- High breakdown voltage ( $V_{CB0}=1500V$ ).
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.
- On-chip damper diode.

### Package Dimensions

unit : mm  
2079D



### Specifications

#### Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		1500	V
Collector-to-Emitter Voltage	$V_{CEO}$		800	V
Emitter-to-Base Voltage	$V_{EBO}$		6	V
Collector Current	$I_C$		8	A
Collector Current (Pulse)	$I_{CP}$		20	A
Collector Dissipation	$P_C$		2.0	W
		$T_c=25^\circ C$	35	W
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

#### Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800V, I_E=0$			10	$\mu A$
Collector Cutoff Current	$I_{CES}$	$V_{CE}=1500V, R_{BE}=0$			1.0	mA
Collector Sustain Voltage	$V_{CEO(sus)}$	$I_C=100mA, I_B=0$	800			V
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	40		130	mA

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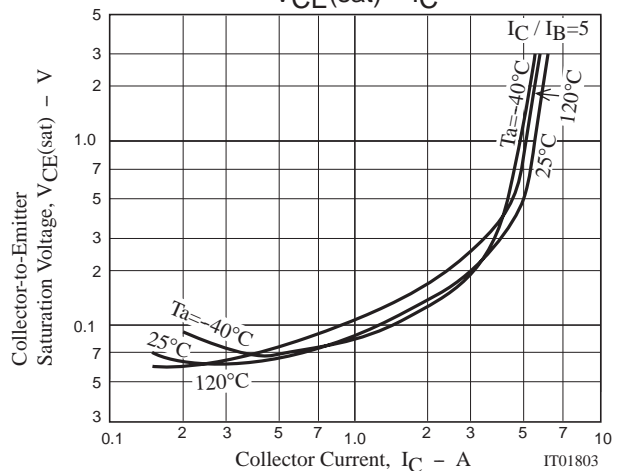
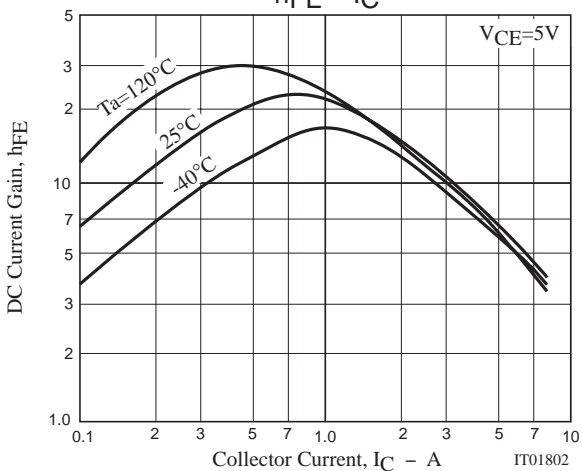
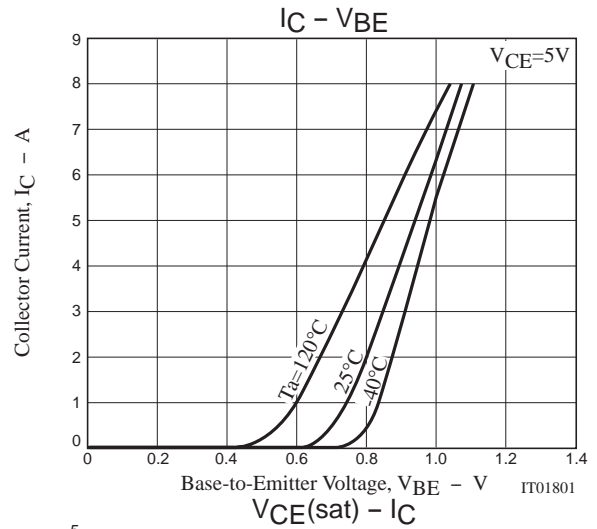
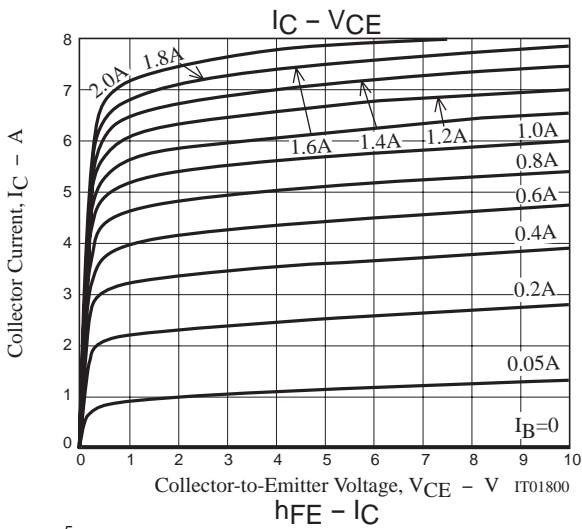
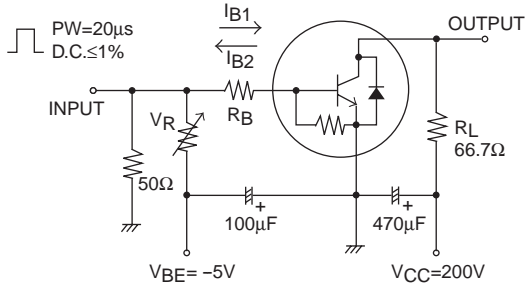
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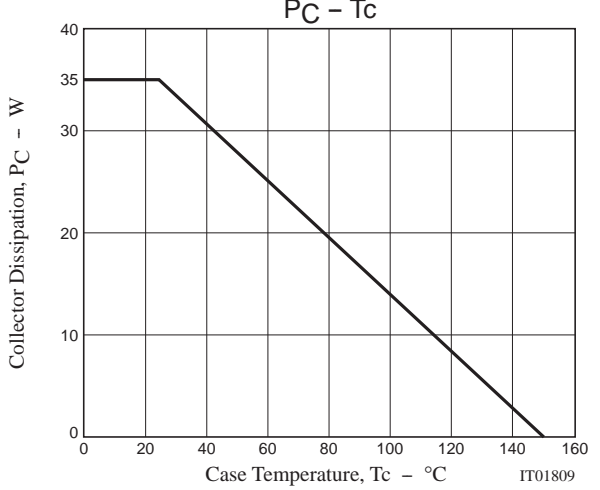
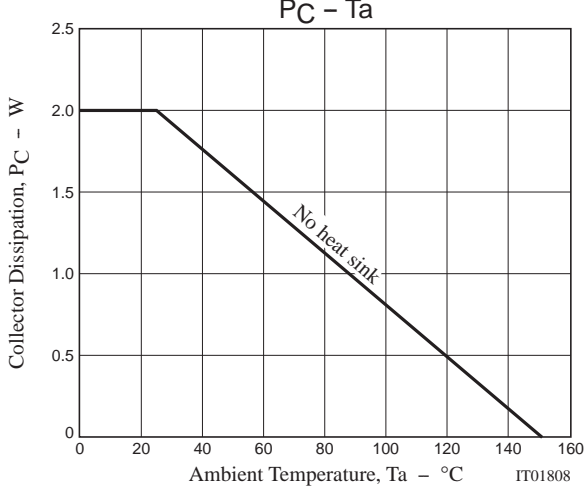
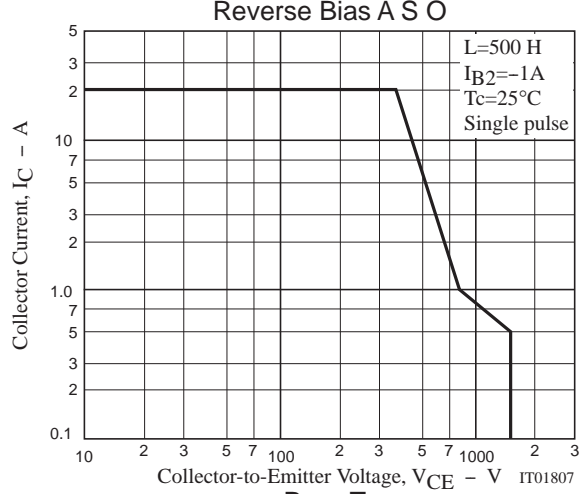
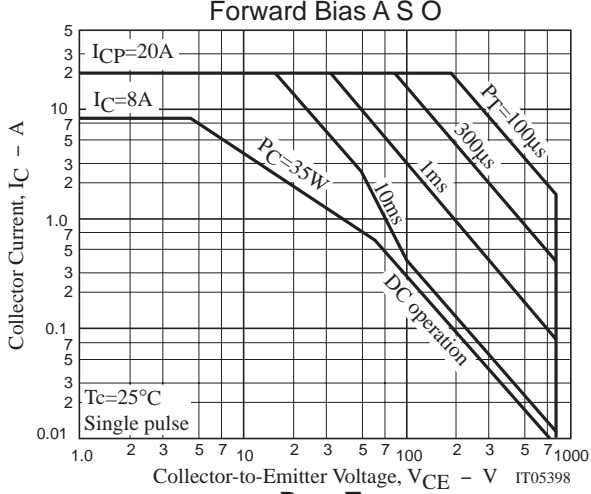
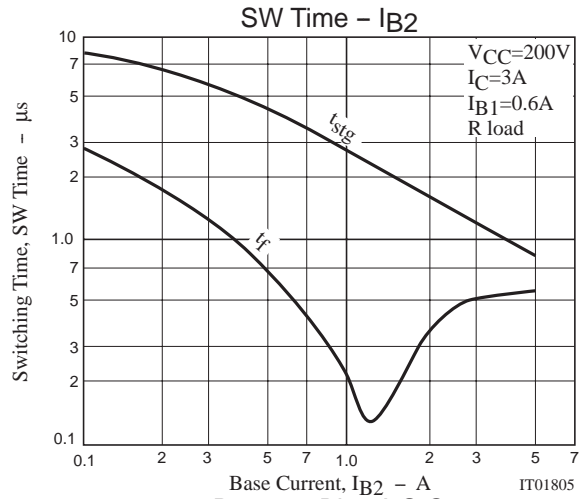
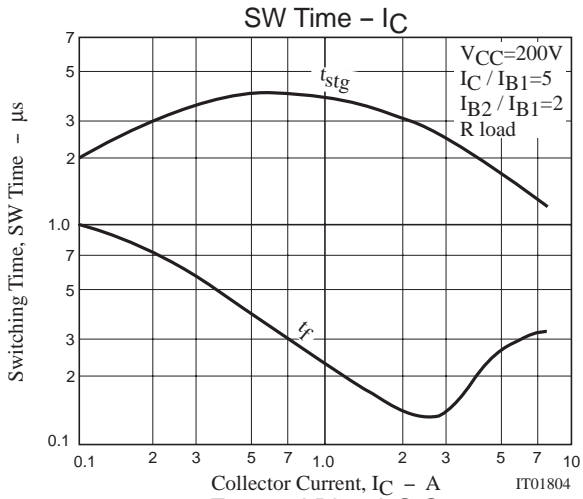
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.5A, I_B=0.9A$			3	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4.5A, I_B=0.9A$			1.5	V
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=1A$	10			
	$h_{FE2}$	$V_{CE}=5V, I_C=5A$	5		8	
Diode Forward Voltage	$V_F$	$I_{EC}=7A$			2	V
Fall Time	$t_f$	$I_C=3A, I_{B1}=0.6A, I_{B2}=-1.2A$			0.3	$\mu s$

## Switching Time Test Circuit



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