

**2SD1159**

TV Horizontal Deflection Output, High-Current Switching Applications

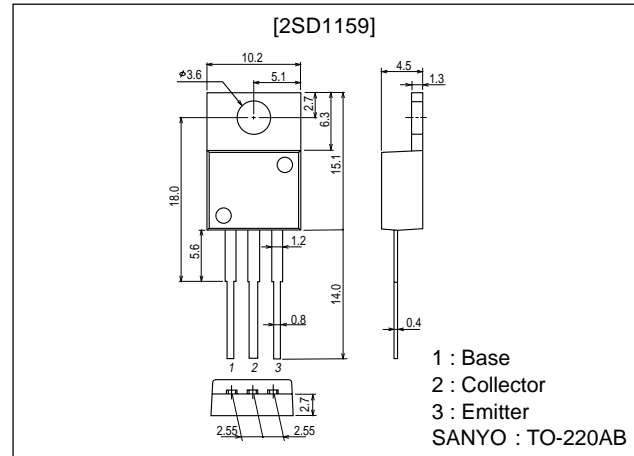
Features

- Capable of efficient drive with small internal loss due to excellent t_f .

Package Dimensions

unit:mm

2010C

**Specifications****Absolute Maximum Ratings** at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		200	V
Collector-to-Emitter Voltage	V_{CE0}		60	V
Emitter-to-Base Voltage	V_{EB0}		6	V
Collector Current	I_C		4.5	A
Collector Current (Pulse)	I_{CP}		10	A
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	40	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	mA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=1\text{A}$	30		160	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=4\text{A}$	25			
Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=1\text{A}$		10		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=0.4\text{A}$		0.5	1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4\text{A}, I_B=0.4\text{A}$			1.5	V

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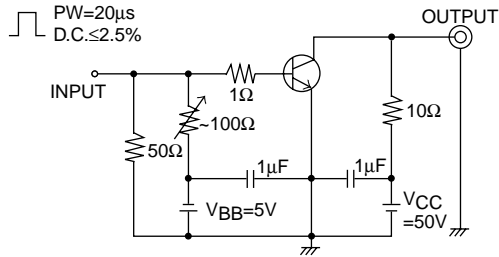
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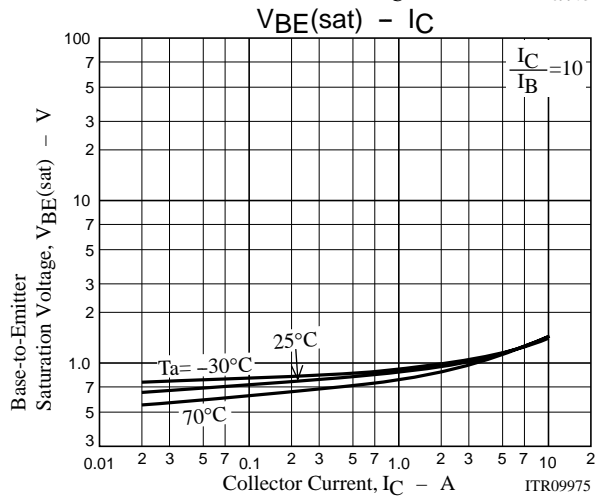
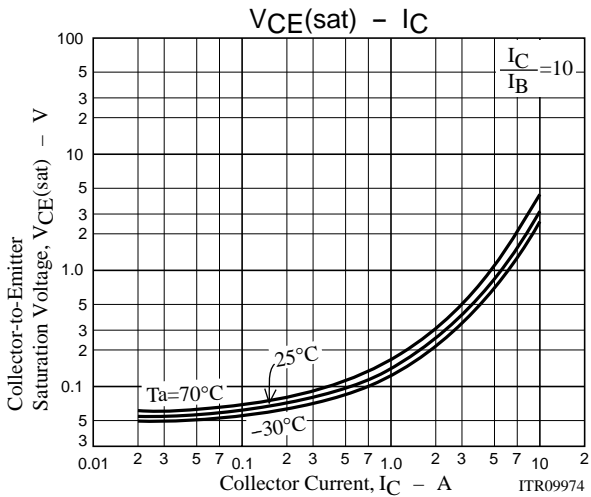
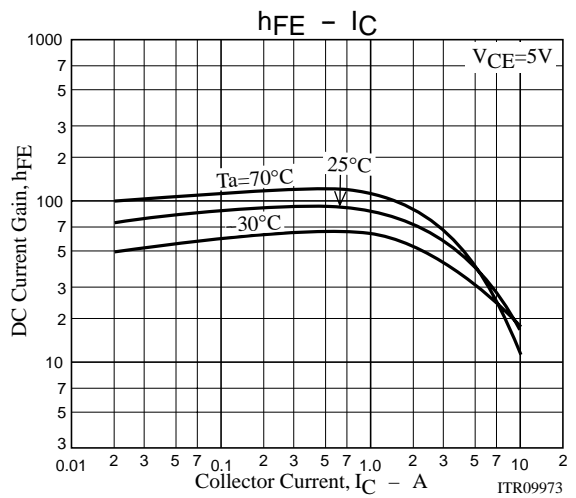
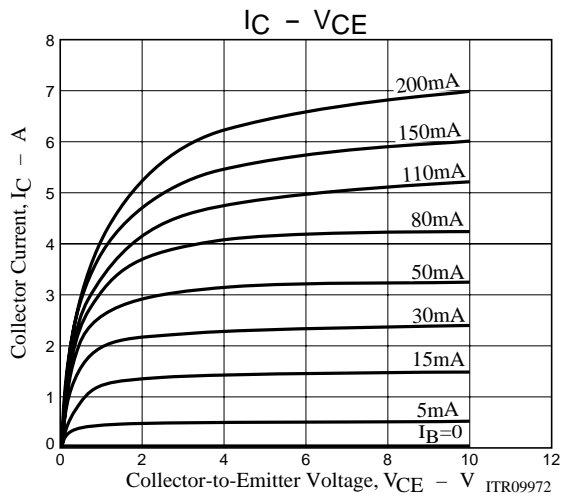
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=5mA, I_E=0$	200			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=5mA, I_C=0$	6			V
Fall Time	t_f	See specified Test Circuit.		0.2	0.5	μs

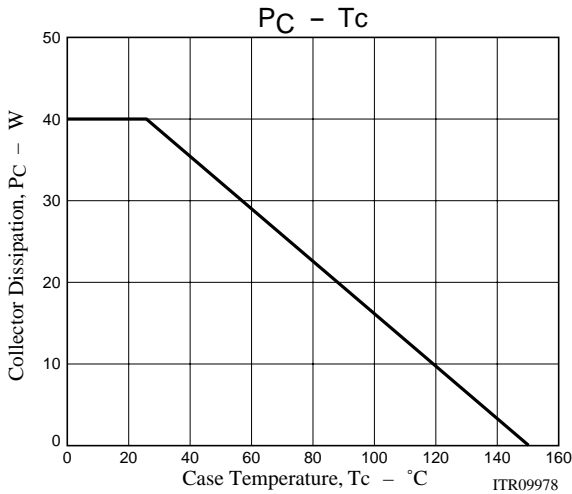
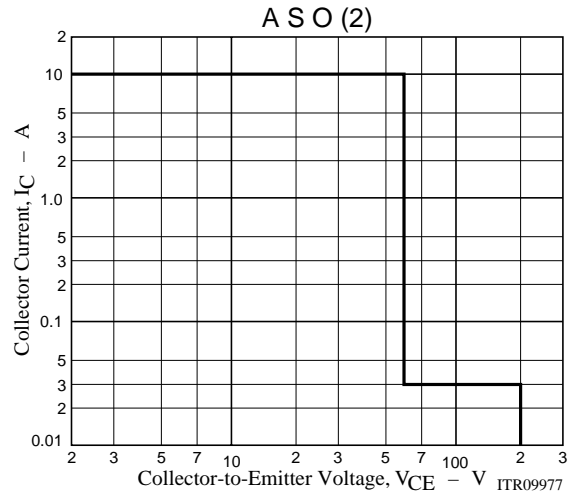
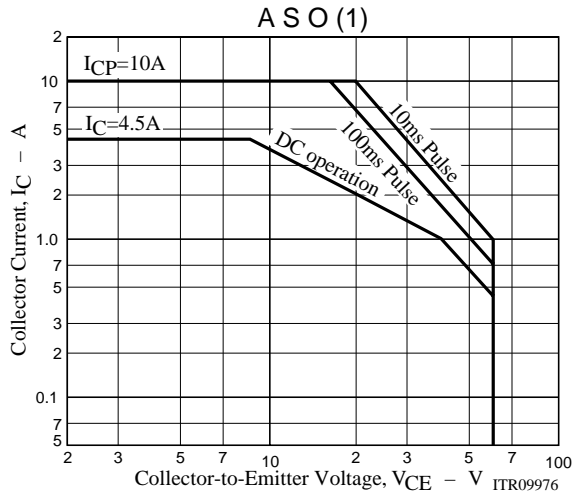
Specified Test Circuit



$V_{CC}=50V$
 $I_C=5A$
 $I_{B1}=-I_{B2}=500mA$



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