



HPA251R

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

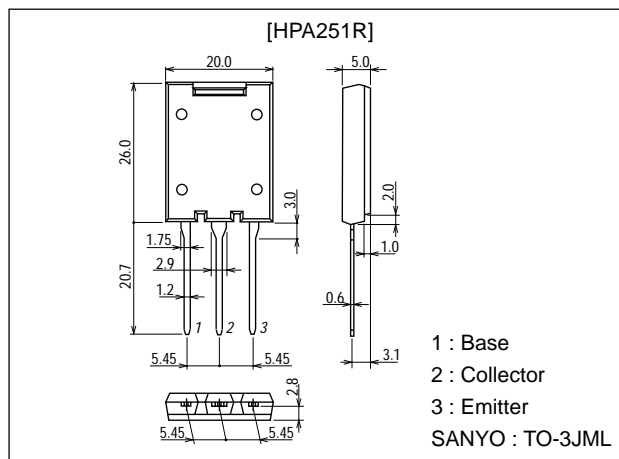
Features

- High speed (t_f typ=100ns).
- High breakdown voltage (V_{CBO} =1500V).
- High-speed damper diode placed in one package (t_{fr} =0.2 μ s max).
- Adoption of MBIT process.
- High reliability (adoption of HVP process).

Package Dimensions

unit:mm

2111A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1500	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		25	A
Collector Current (Pulse)	I_{CP}		50	A
Diode Forward Current	I_O		16	A
Diode Forward Current (Pulse)	I_{OP}	$PW \leq 100\mu\text{s}$, $\text{duty} \leq 50\%$	25	A
Total Power Dissipation	P_T	$T_c = 25^\circ\text{C}$	120	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}	$V_{CB}=1500\text{V}$, $I_E=0$			5	mA
Collector Sustain Voltage	$V_{CEO(sus)}$	$I_C=100\text{mA}$, $I_B=0$	800			V
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$			1.0	mA
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=16\text{A}$, $I_B=4\text{A}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=16\text{A}$, $I_B=4\text{A}$			1.5	V

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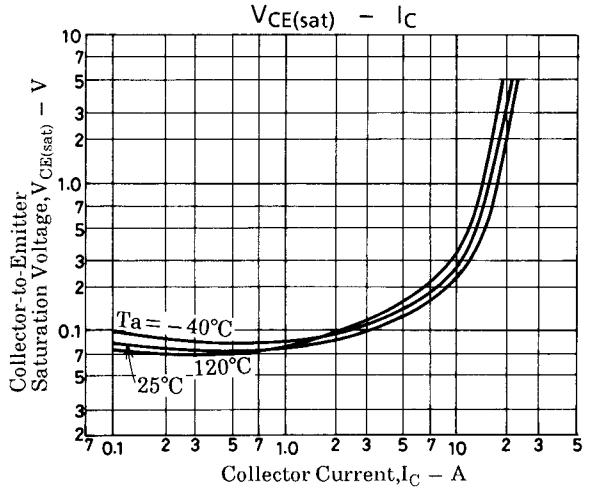
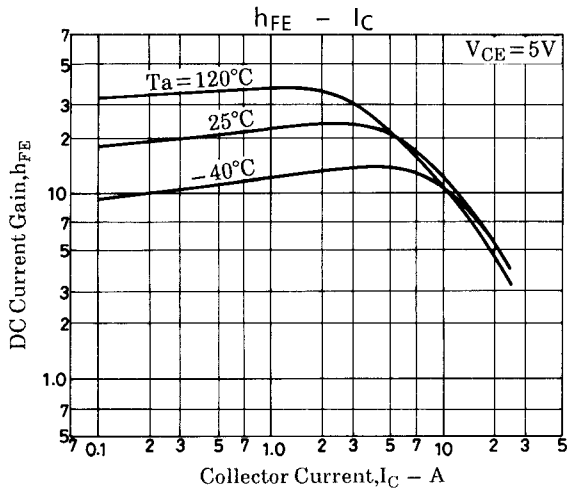
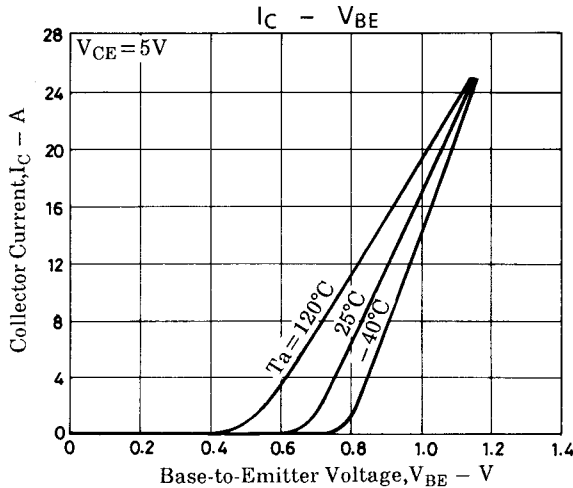
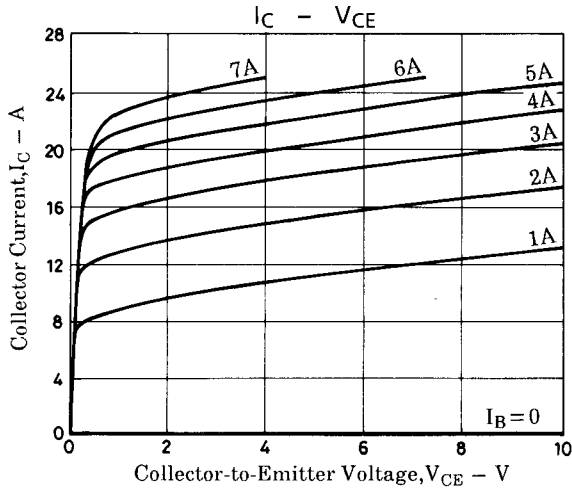
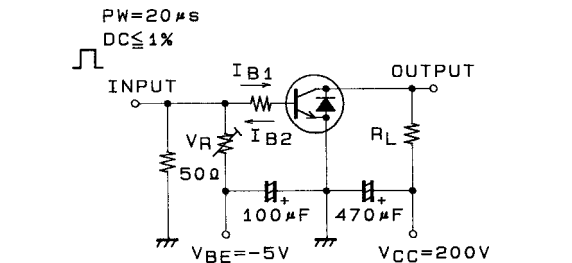
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1.0A$	8			
	$h_{FE(2)}$	$V_{CE}=5V, I_C=16A$	4*		10*	
Storage Time	t_{stg}	$I_C=12A, I_{B1}=2.4A, I_{B2}=-4.8A$			3.0	μs
Fall Time	t_f	$I_C=12A, I_{B1}=2.4A, I_{B2}=-4.8A$		0.1	0.2	μs
Diode Forward Voltage	$V_F(1)$	$I_F=16A$			3	V
	$V_F(2)$	$I_F=25A$			5	V
Diode Reverse Recovery Time	t_{rr}	$I_F=-I_R=100mA$			1.5	μs
Diode Forward Recovery Time	t_{fr}	$I_F=100mA$		0.1	0.2	μs

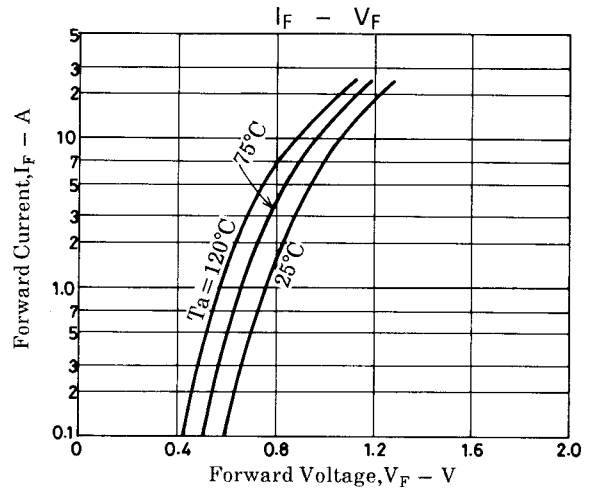
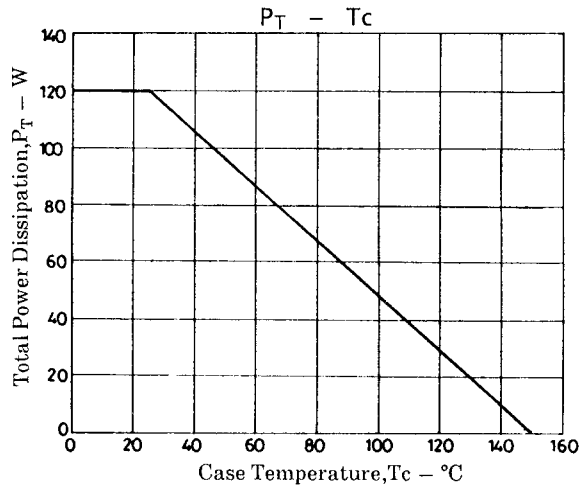
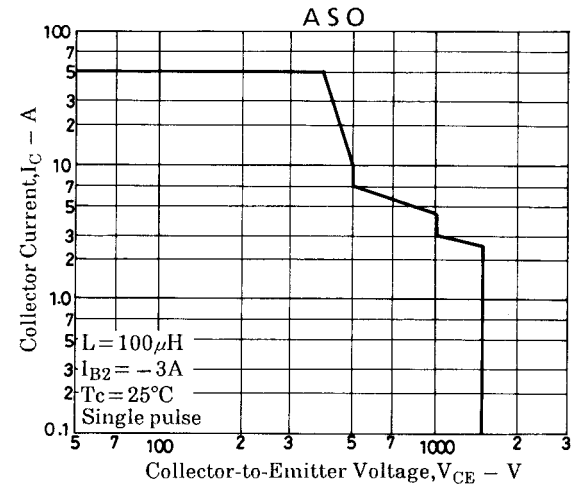
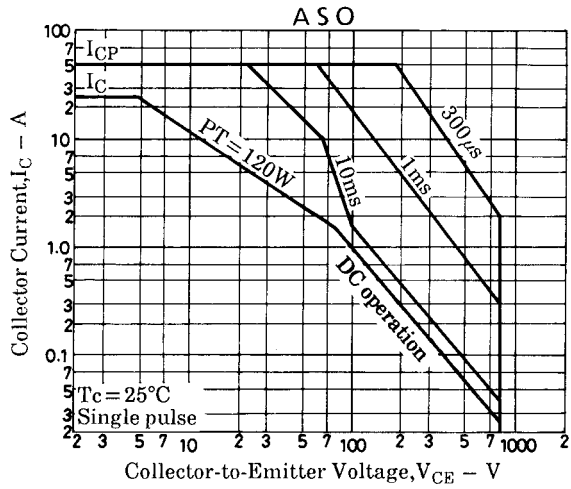
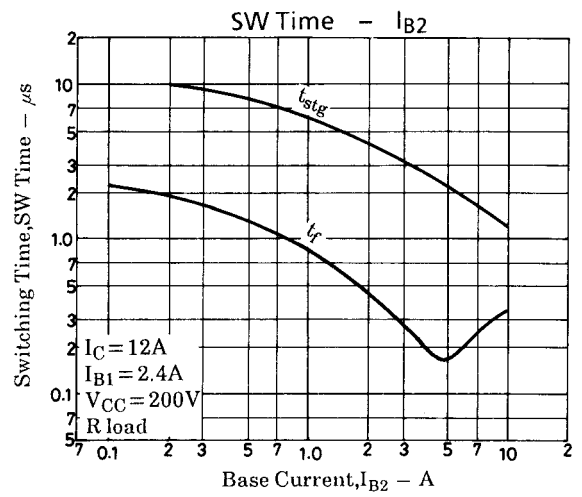
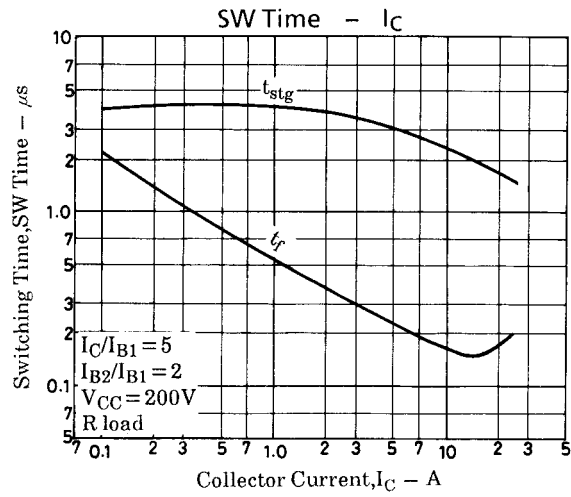
* : The HPA251R is classified by 16A h_{FE} as follows :

4	2	6	5	3	8	7	4	10
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Switching Time Test Circuit



HPA251R



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