



2SA1875 / 2SC4976

High-Definition CRT Display Video Output Applications

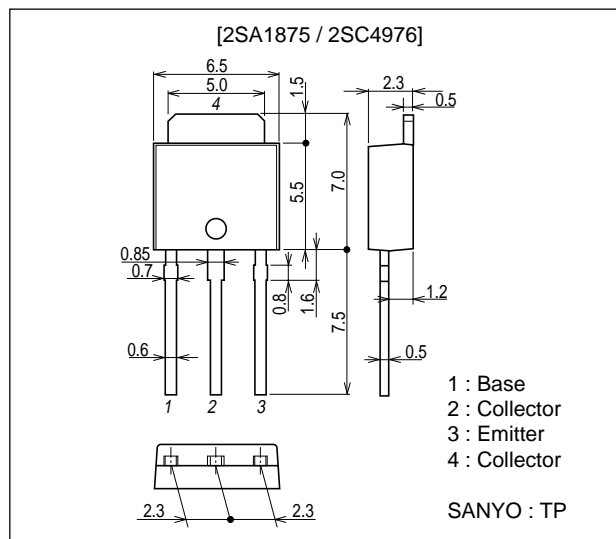
Features

- High f_T : $f_T=400\text{MHz}(\text{typ})$.
- High breakdown voltage : $V_{CEO} \geq 200\text{V}(\text{min})$.
- Large current capacitance.
- Small reverse transfer capacitance and excellent high-frequency characteristic :
 $C_{re}=3.4\text{pF}(\text{NPN}), 4.2\text{pF}(\text{PNP})$.
- Adoption of FBET process.

Package Dimensions

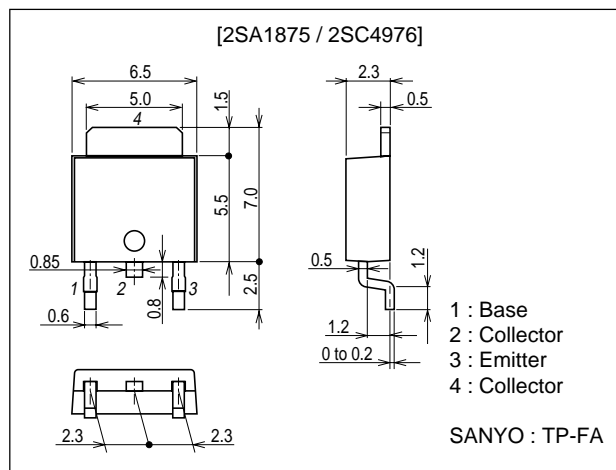
unit : mm

2045B



unit : mm

2044B



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Specifications

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

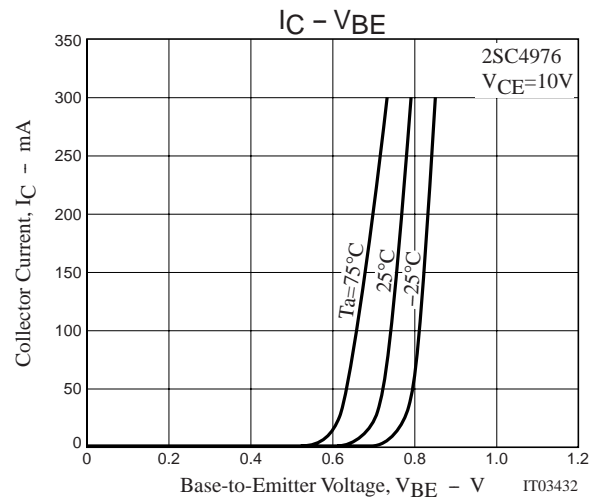
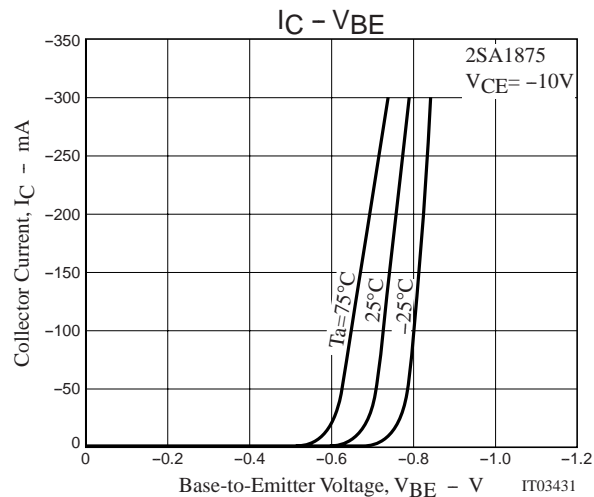
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)-200	V
Collector-to-Emitter Voltage	V_{CE0}		(-)-200	V
Emitter-to-Base Voltage	V_{EB0}		(-)-3	V
Collector Current	I_C		(-)-300	mA
Collector Current (Pulse)	I_{CP}		(-)-600	mA
Base Current	I_B		(-)-30	mA
Collector Dissipation	P_C		0.8	W
		$T_c=25^\circ\text{C}$	12	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

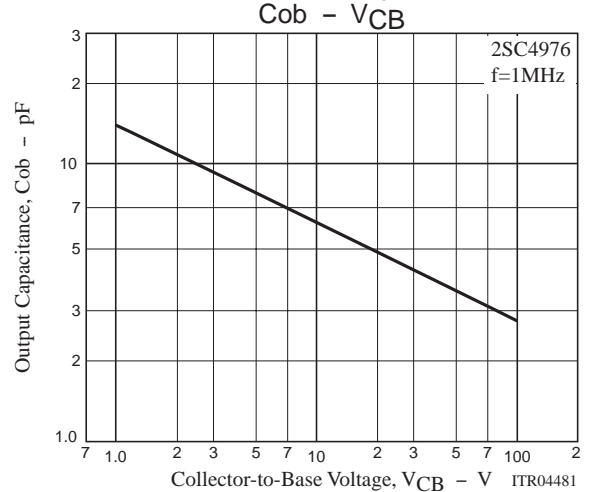
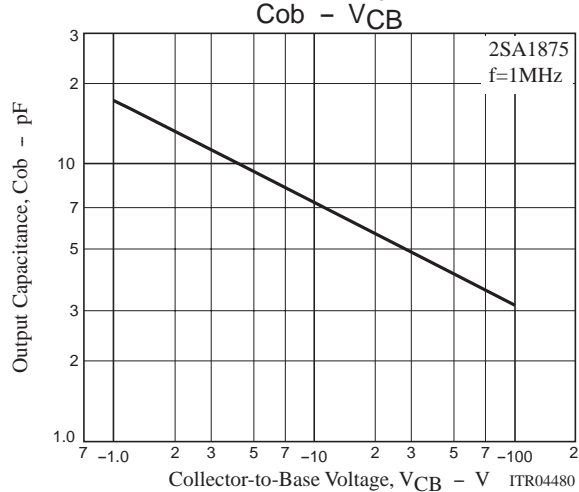
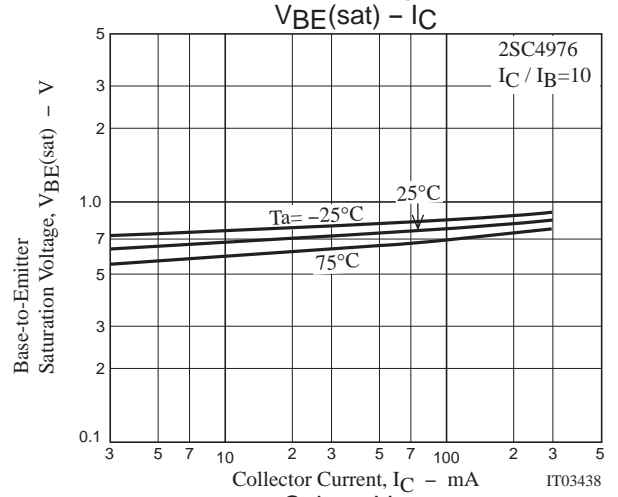
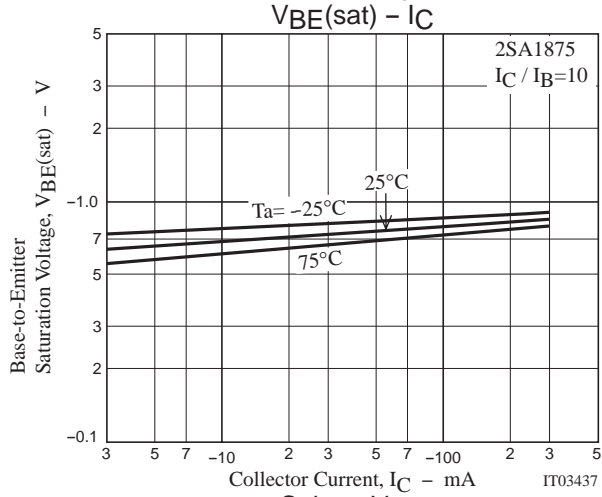
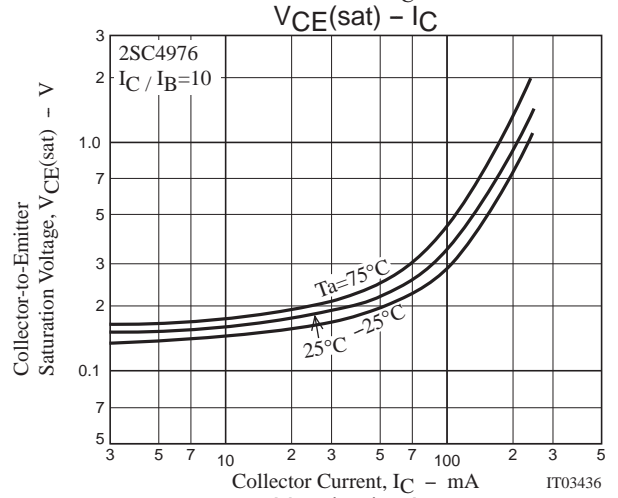
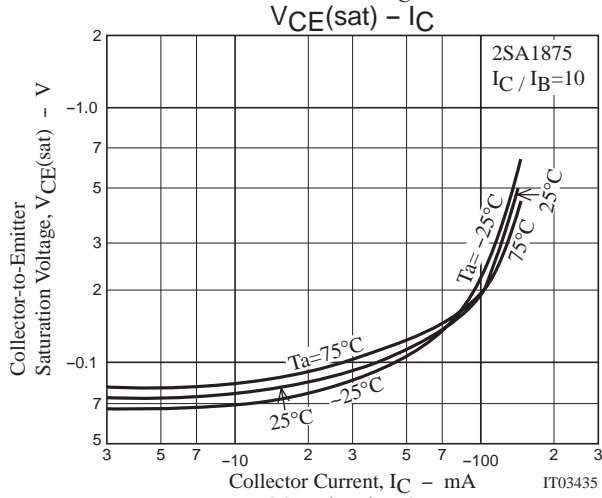
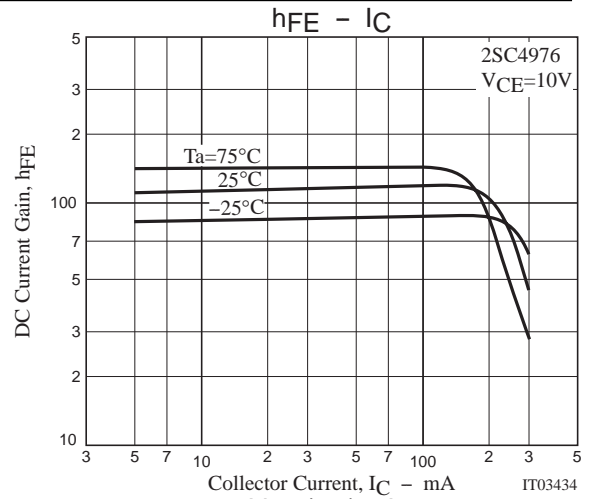
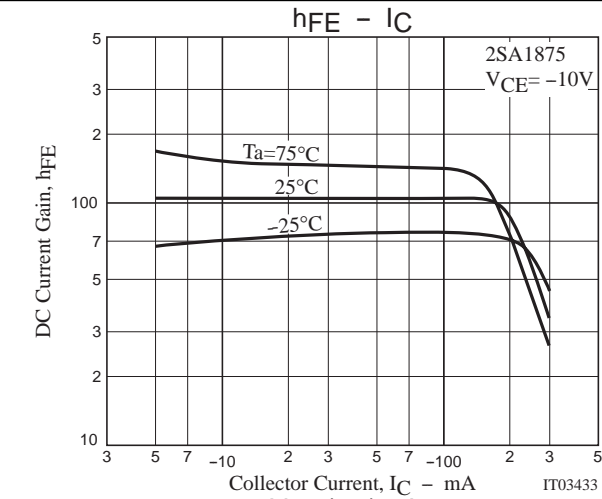
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)150\text{V}$, $I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)2\text{V}$, $I_C=0$			(-)1.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)10\text{V}$, $I_C=(-)50\text{mA}$	60*		320*	
	h_{FE2}	$V_{CE}=(-)10\text{V}$, $I_C=(-)250\text{mA}$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}$, $I_C=(-)100\text{mA}$		400		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)30\text{V}$, $f=1\text{MHz}$		(5.0)4.2		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=(-)30\text{V}$, $f=1\text{MHz}$		(4.2)3.4		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50\text{mA}$, $I_B=(-)5\text{mA}$			(-)1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50\text{mA}$, $I_B=(-)5\text{mA}$			(-)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}$, $I_E=0$	(-)200			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}$, $R_{BE}=\infty$	(-)200			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)100\mu\text{A}$, $I_C=0$	(-)-3			V

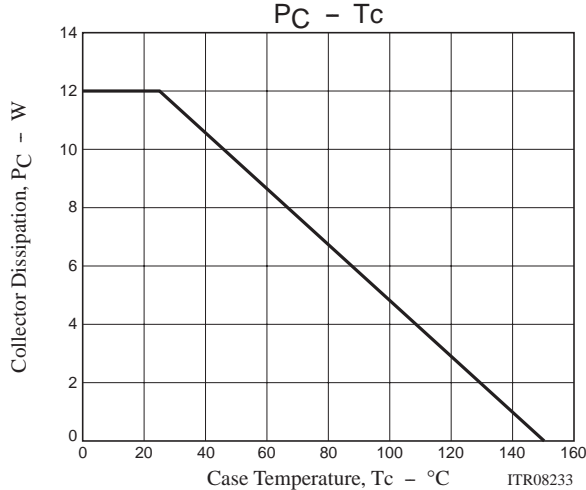
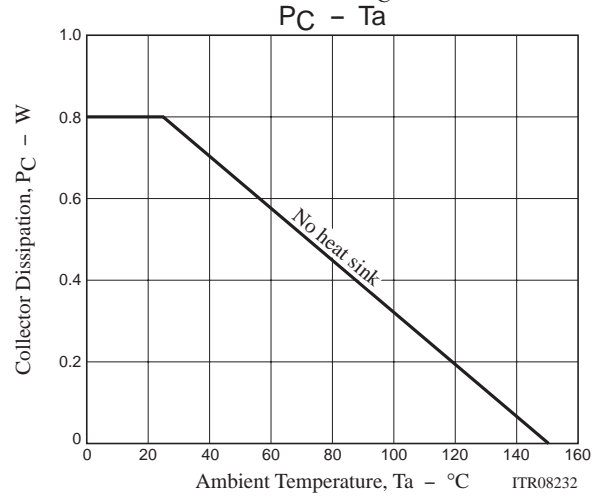
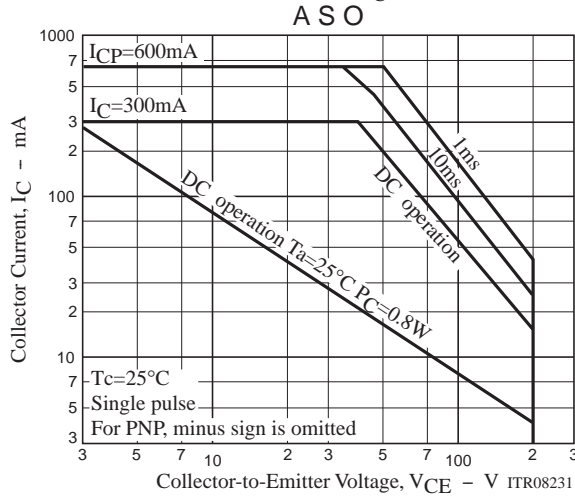
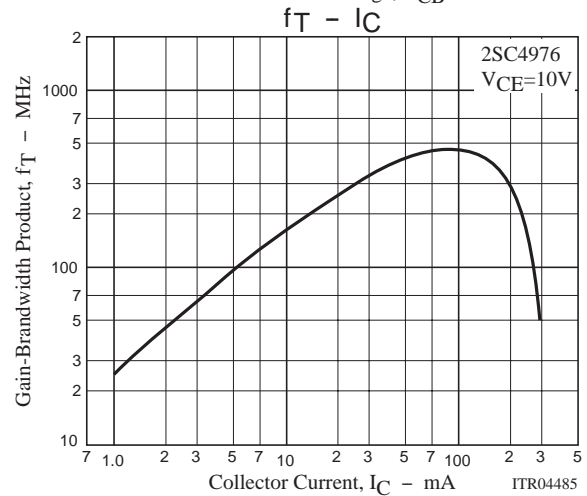
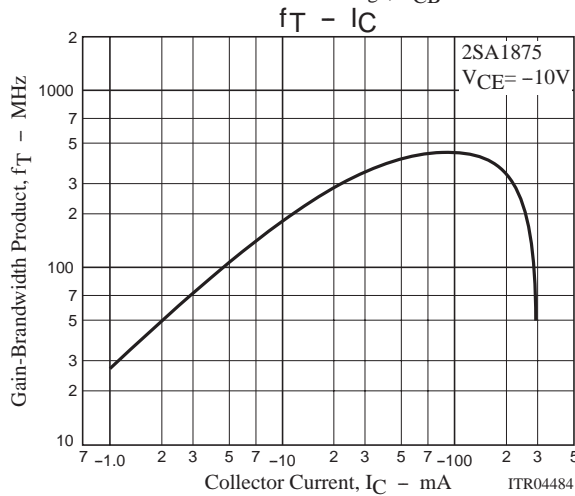
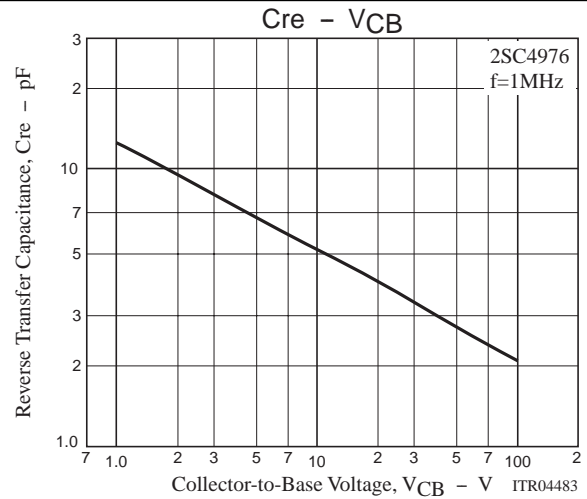
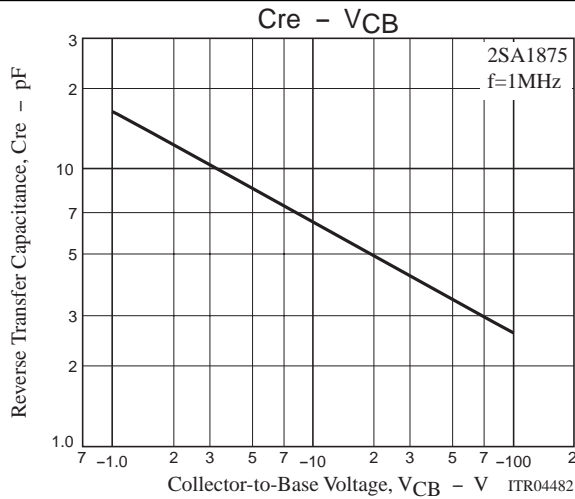
* : The 2SA1875 / 2SC4976 are classified by 50mA h_{FE} as follows

Rank	D	E	F
h_{FE}	60 to 120	100 to 200	160 to 320



2SA1875 / 2SC4976





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