

**2SC4188**

Ultrahigh-Definition CRT Display Video Output Applications

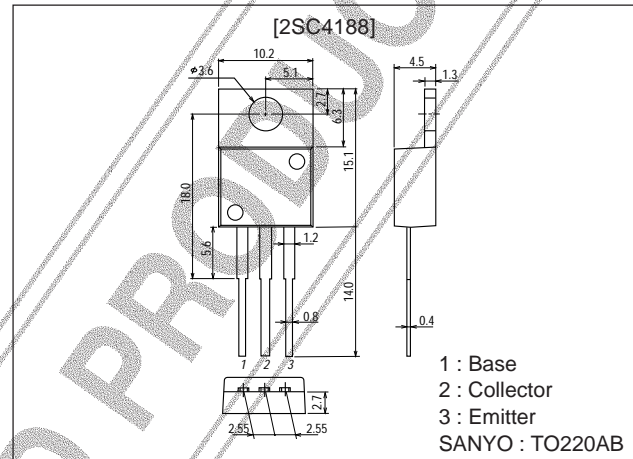
Features

- High breakdown voltage : $V_{CE0} \geq 200V$.
- Small reverse transfer capacitance and excellent high frequency characteristic : $C_{re} = 1.3pF$ typ.
- Adoption of FBET process.

Package Dimensions

unit:mm

2010C



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		200	V
Collector-to-Emitter Voltage	V_{CEO}		200	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		100	mA
Collector Current (Pulse)	I_{CP}		200	mA
Collector Dissipation	P_C	$T_c = 25^\circ C$	1.5	W
Junction Temperature	T_J		150	$^\circ C$
Storage temperature	T_{stg}		-55 to +150	$^\circ C$

The 2SC4188 is classified by $10mA h_{FE}$ as follows :

Rank	C	D	E	F
h_{FE}	40 to 80	60 to 120	100 to 200	160 to 320

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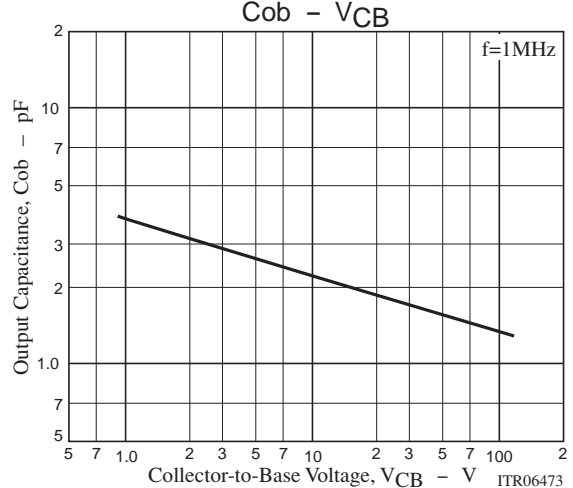
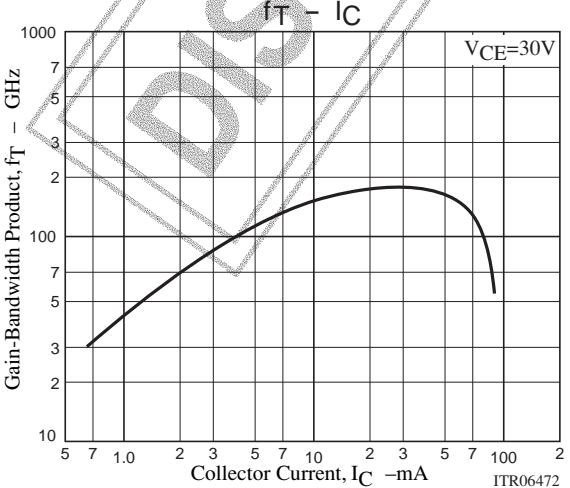
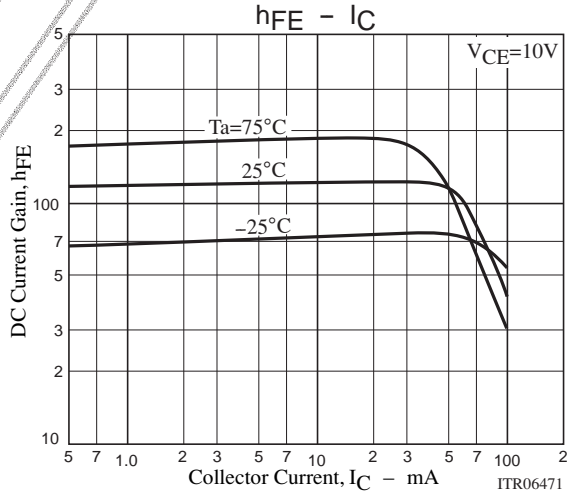
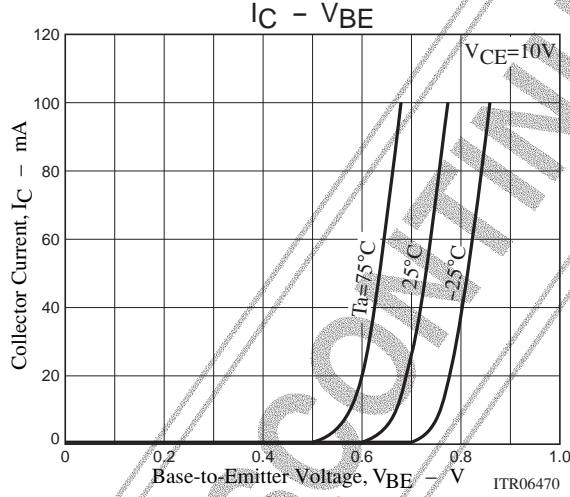
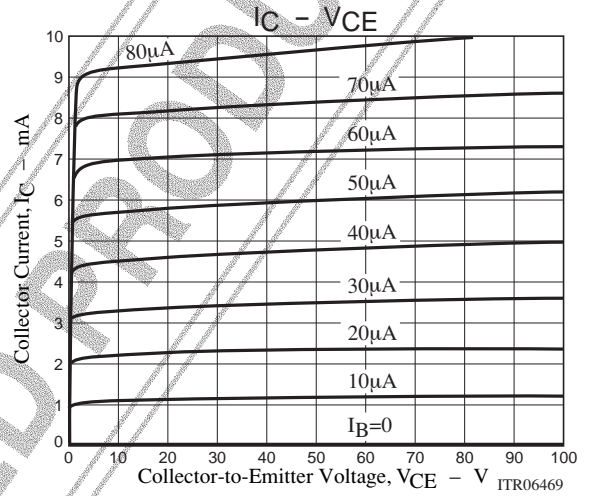
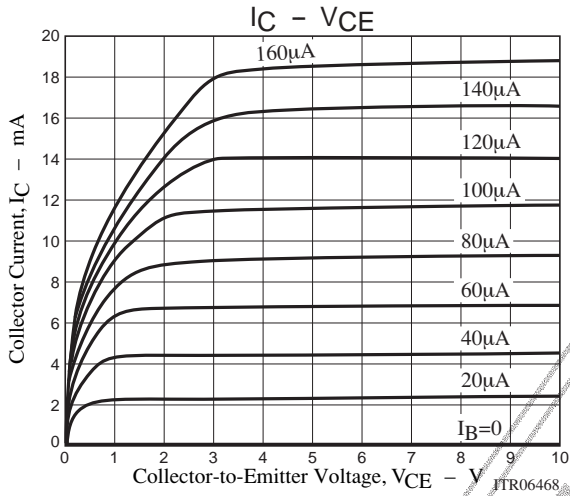
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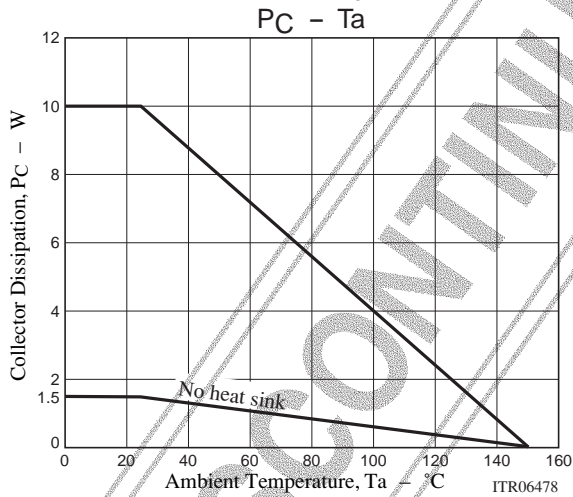
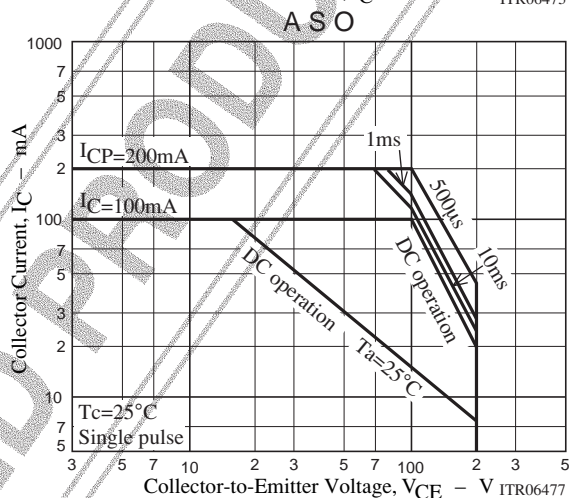
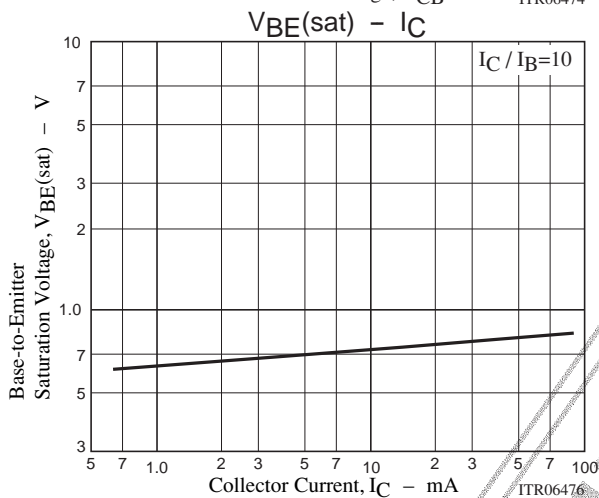
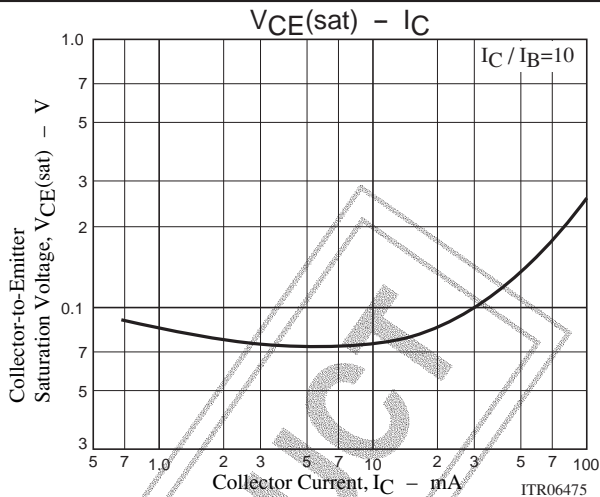
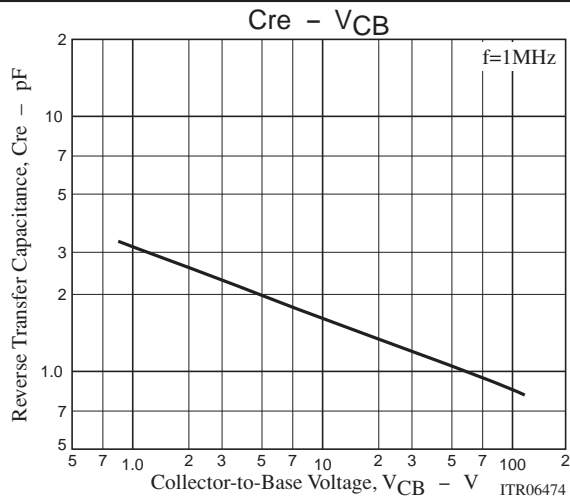
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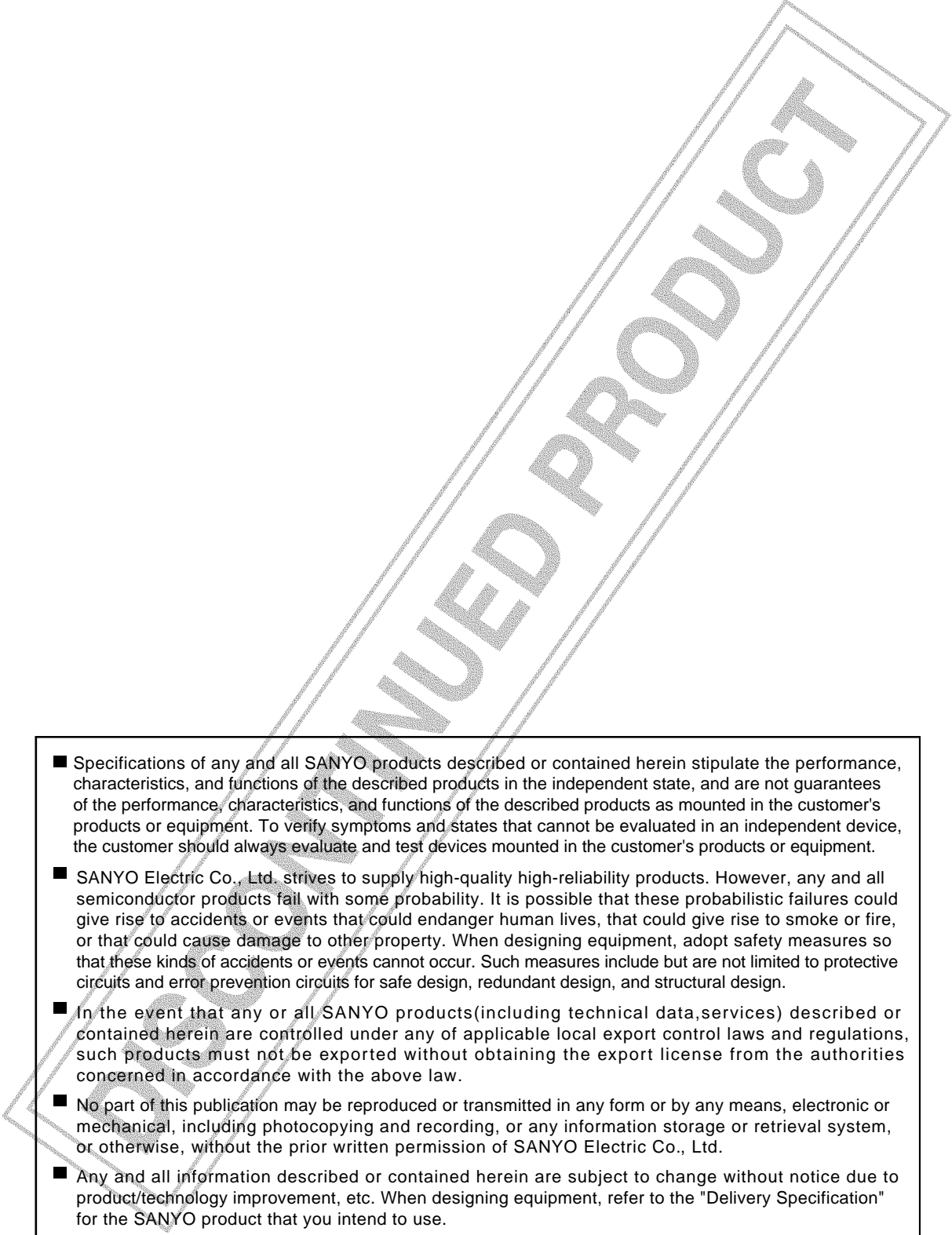
Electrical Characteristics at $T_a = 25^\circ\text{C}$

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}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40*		320*	
Gain-Bandwidth Product	f_T	$V_{CE}=30\text{V}, I_C=10\text{mA}$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=30\text{V}, f=1\text{MHz}$		1.8		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=30\text{V}, f=1\text{MHz}$		1.3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$			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	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V



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