

**SANYO**

No.2253A

2SA1478/2SC3788

PNP/NPN Epitaxial Planar Type  
Silicon Transistors

HIGH-DEFINITION CRT DISPLAY  
VIDEO OUTPUT APPLICATIONS

**Features**

- . High breakdown voltage :  $V_{CEO} \geq 200V$
- . Small reverse transfer capacitance and excellent high frequency characteristic :  $c_{re} = 1.2pF(NPN), 1.7pF(PNP)$
- . Adoption of FBET process

( ): 2SA1478

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

			unit
Collector-to-Base Voltage	$V_{CB0}$	(-)200	V
Collector-to-Emitter Voltage	$V_{CEO}$	(-)200	V
Emitter-to-Base Voltage	$V_{EBO}$	(-)5	V
Collector Current	$I_C$	(-)100	mA
Peak Collector Current	$i_{ep}$	(-)200	mA
Collector Dissipation	$P_C$	1.3	W
		$T_c = 25^\circ C$	5
			W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

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

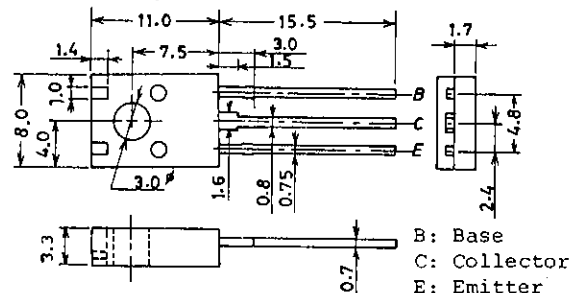
			min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB} = (-)150V, I_B = 0$			(-)0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = (-)10V, I_C = (-)10mA$	40*		320*	
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)30V, I_C = (-)10mA$		150		MHz
Output Capacitance	$c_{ob}$	$V_{CB} = (-)30V, f = 1MHz$		1.7		pF
				(2.6)		
Reverse Transfer Capacitance	$c_{re}$	$V_{CB} = (-)30V, f = 1MHz$		1.2		pF
				(1.7)		
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)20mA, I_B = (-)2mA$			(-)0.6	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)20mA, I_B = (-)2mA$			(-)1.0	V

Continued on next page.

\*: The 2SA1478/2SC3788 are classified by 10mA  $h_{FE}$  as follows:

40	C	80	60	D	120	100	E	200	160	F	320
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**Package Dimensions 2042A**  
(unit: mm)

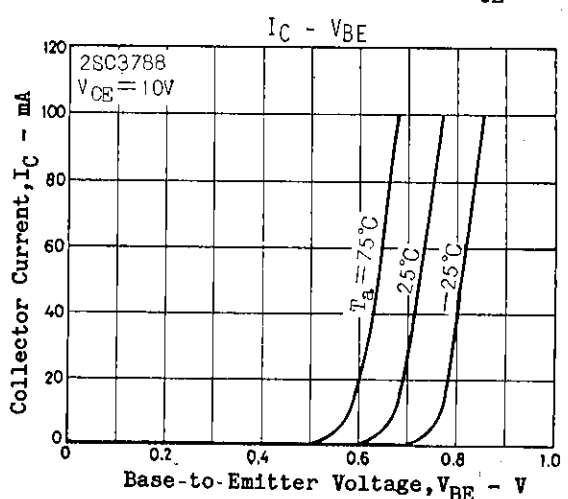
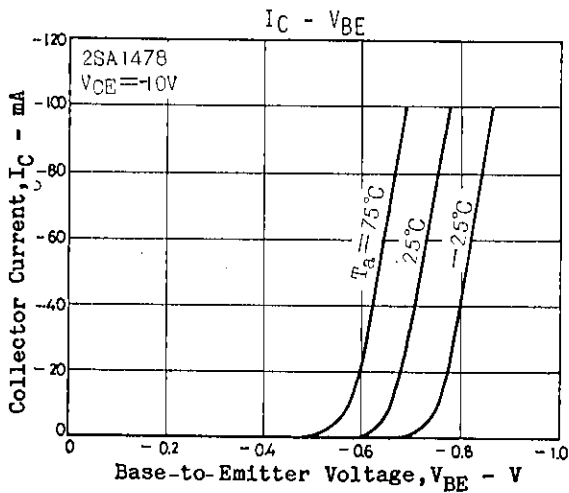
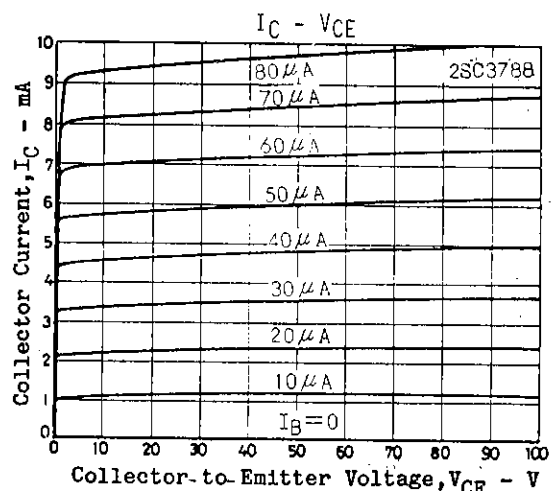
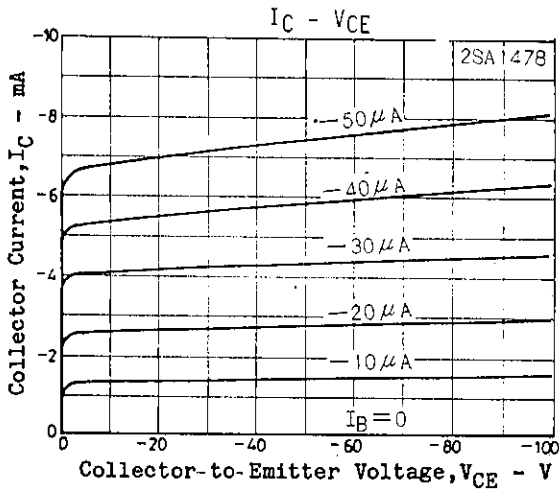
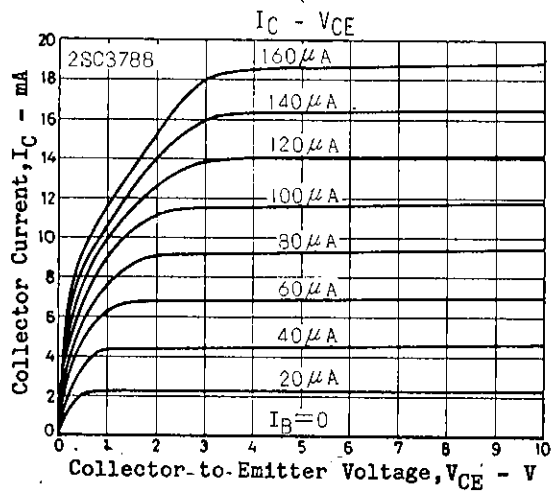
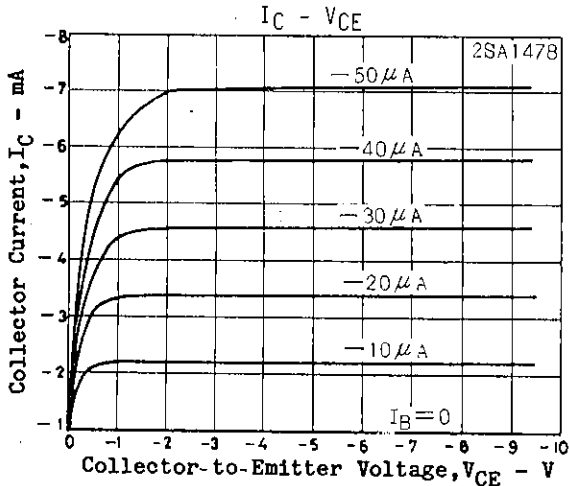


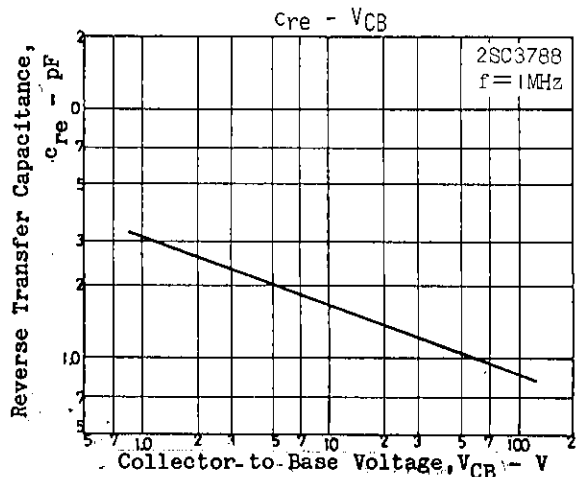
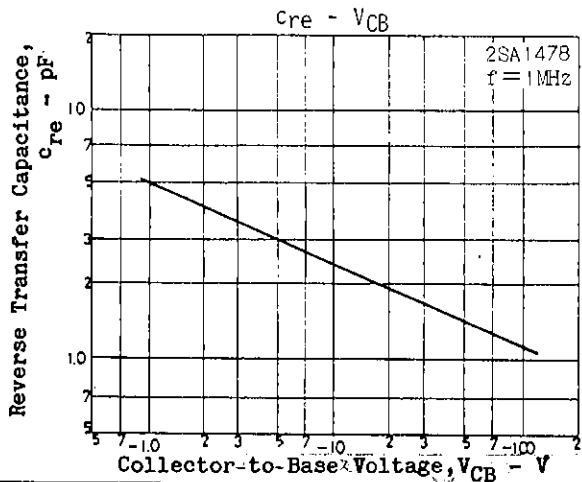
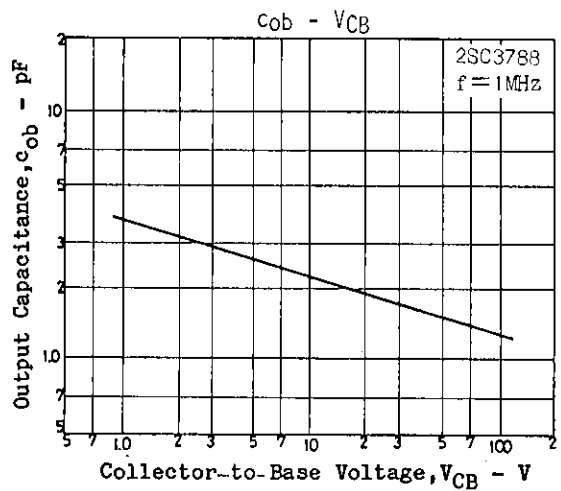
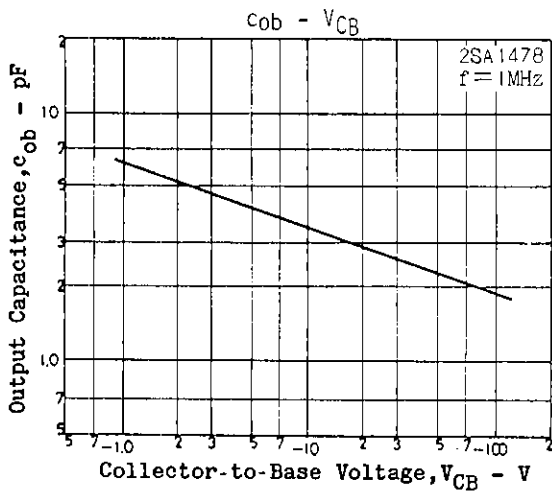
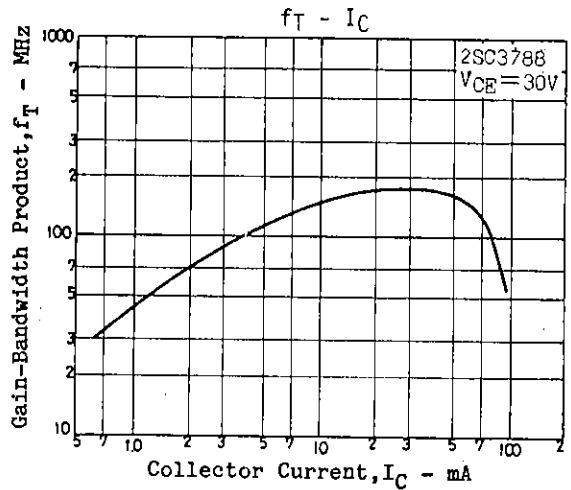
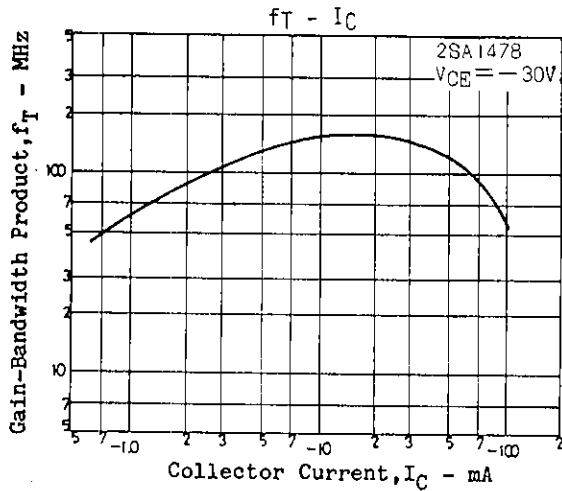
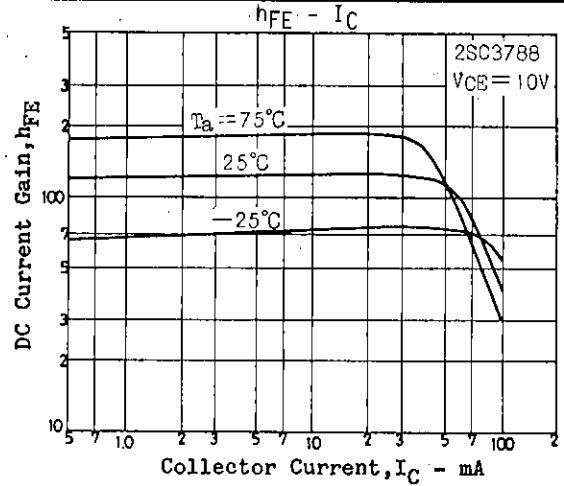
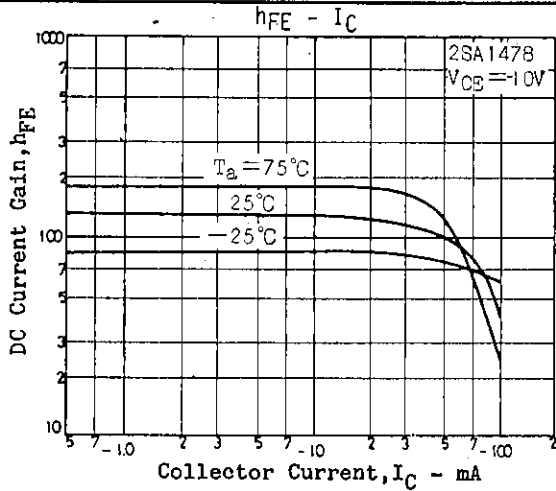
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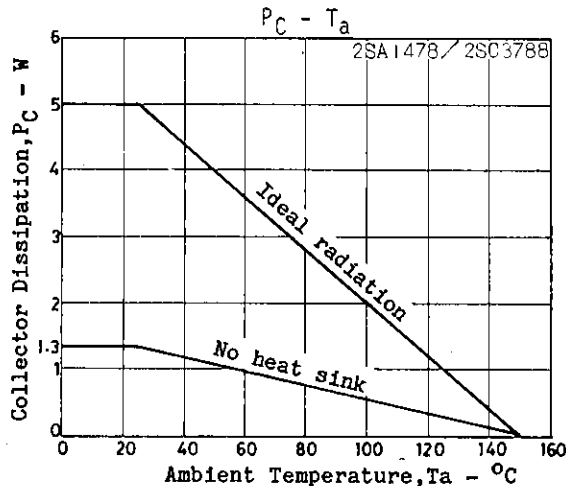
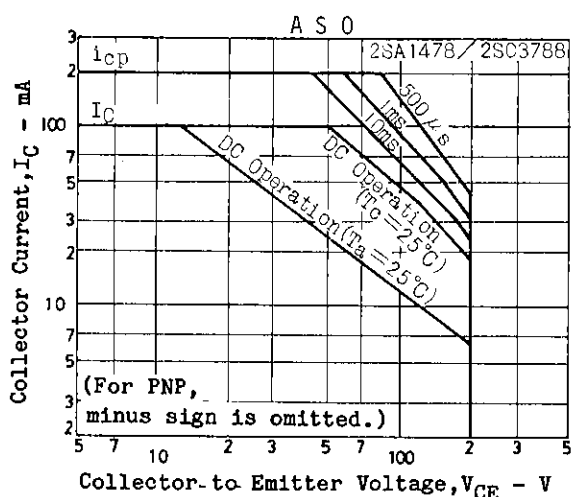
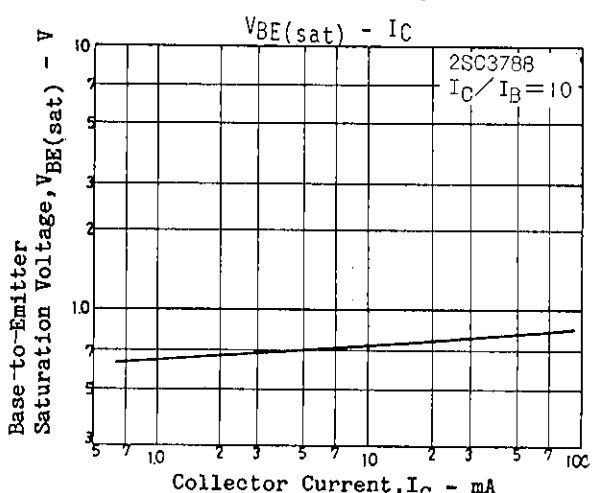
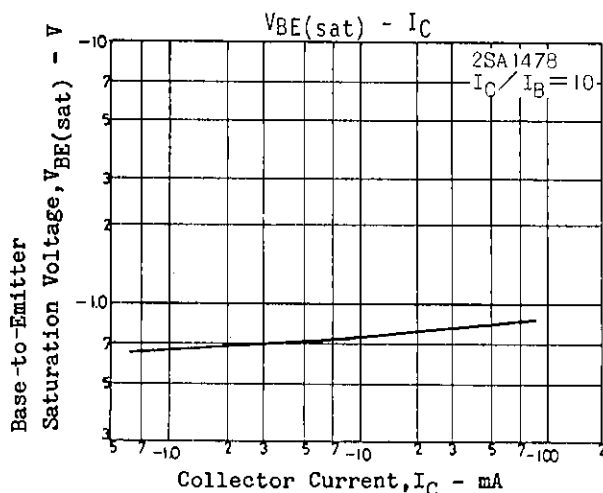
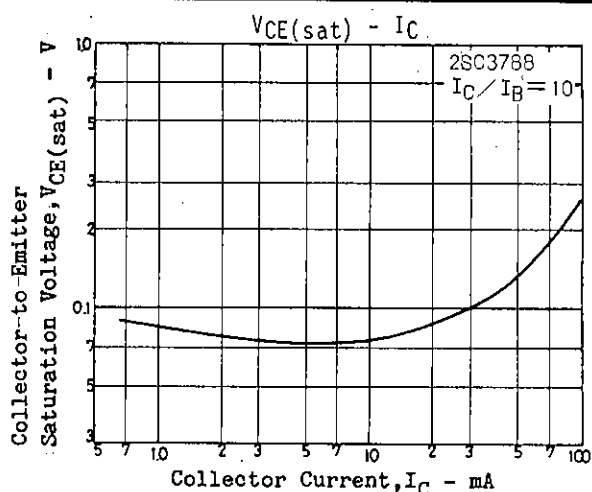
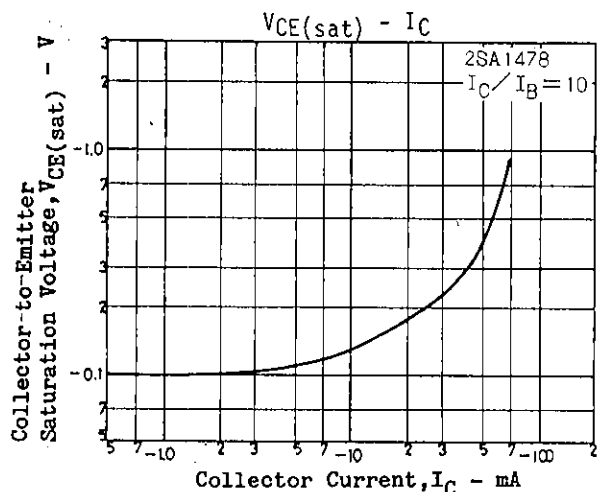
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			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-) 10\mu A, I_E = 0$	(-)	200		V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-) 1mA, R_{BE} = \infty$	(-)	200		V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-) 10\mu A, I_C = 0$	(-)	5		V







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