Ordering number: EN 2527A

SANYO

No.2527A

2SA1475/2SC3781

PNP/NPN Epitaxial Planar Silicon Transistors

Very High-Definition CRT Display Video Output Applications

Applications

- Video output
- Color TV chroma output
- Wide-band amp

Features

- High f_T (f_T typ=500MHz)
- High breakdown voltage ($V_{CEO} \geq 120V$)
- Small reverse transfer capacitance and excellent HF response (c_{re}=2.6pF(NPN), 3.9pF(PNP))
- Complementary PNP and NPN types
- Adoption of FBET process

( ):2SA1475

Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		(-)120	V
Collector-to-Emitter Voltage	V_{CEO}		(-)120	V
Emitter-to-Base Voltage	V_{EBO}		(-)4	V
Collector Current	I_C		(-)400	mA
Peak Collector Current	i_{cp}		(-)600	mA
Collector Dissipation	P_C		1.5	W
		Tc=50°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to 150	°C

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)80V, I_E=0			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)2V, I_C=0			(-)1.0	μA
DC Current Gain	$h_{FE}(1)$	V_{CE}=(-)10V, I_C=(-)50mA	40		320*	
	$h_{FE}(2)$	V_{CE}=(-)10V, I_C=(-)250mA	20			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)50mA		500		MHz
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(-)70mA, I_B=(-)7mA			0.6	V
					(-0.8)	V

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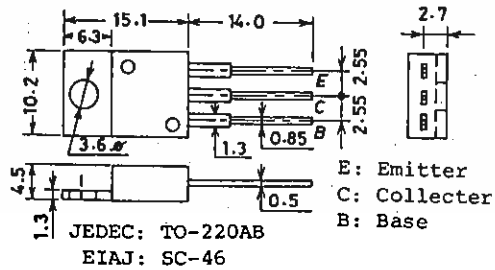
*:The 2SA1475/2SC3781 are classified by 50mA h_{FE} as follows:

40	C	80	60	D	120
100	E	200	160	F	320

Package Dimensions 2010A

(unit: mm)



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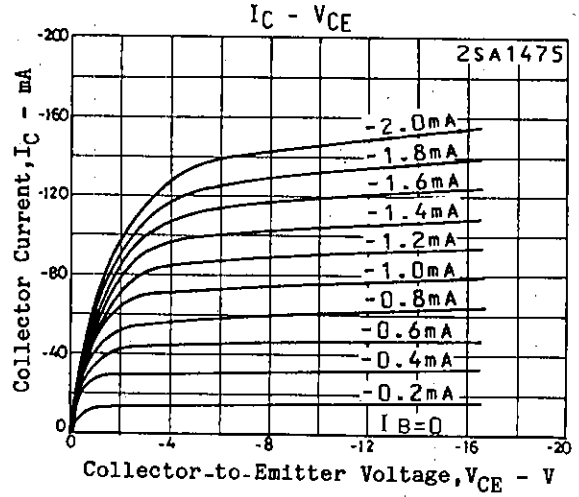
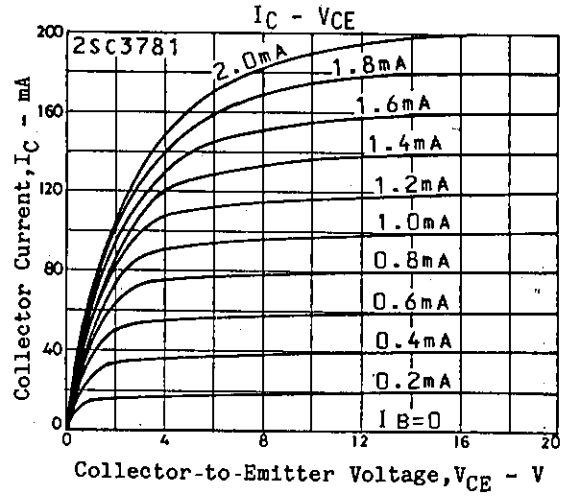
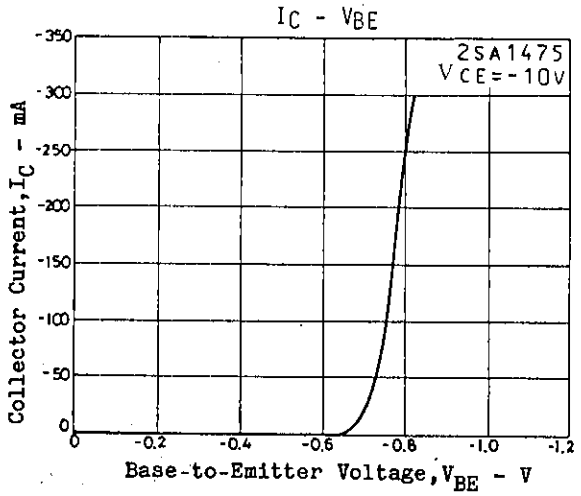
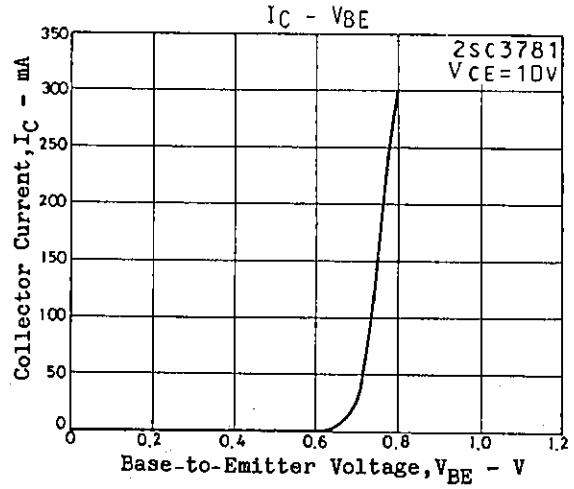
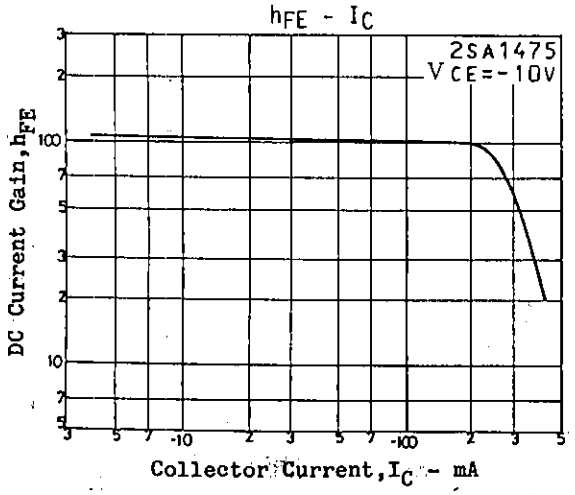
			min	typ	max	unit
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=(-)70mA, I_B=(-)7mA			(-)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0	(-)120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)120			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)100μA, I_C=0	(-)4			V
Output Capacitance	C_{ob}	V_{CB}=(-)30V, f=1MHz		3.0(4.4)		pF
Reverse Transfer Capacitance	C_{re}	V_{CB}=(-)30V, f=1MHz		2.6(3.9)		pF

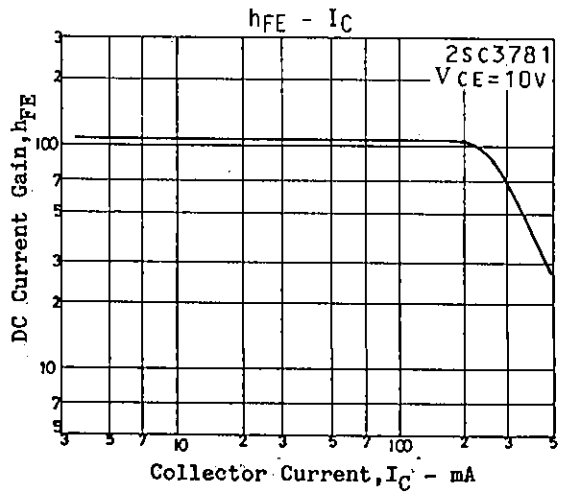


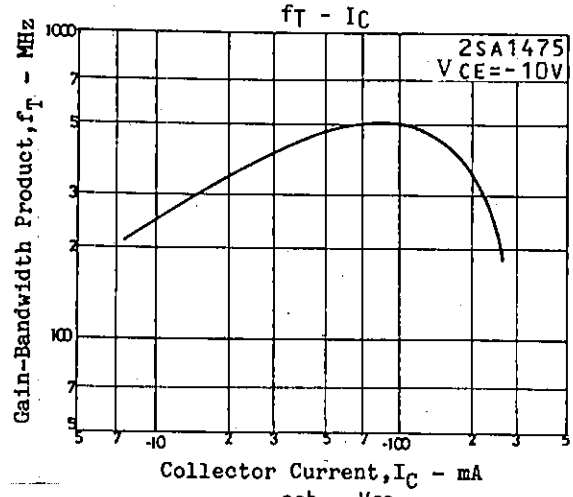


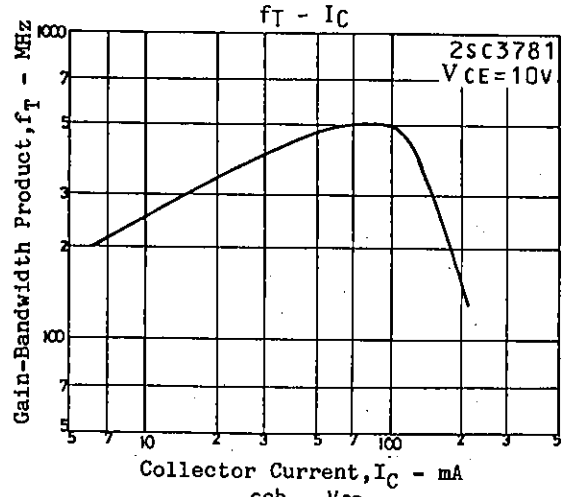


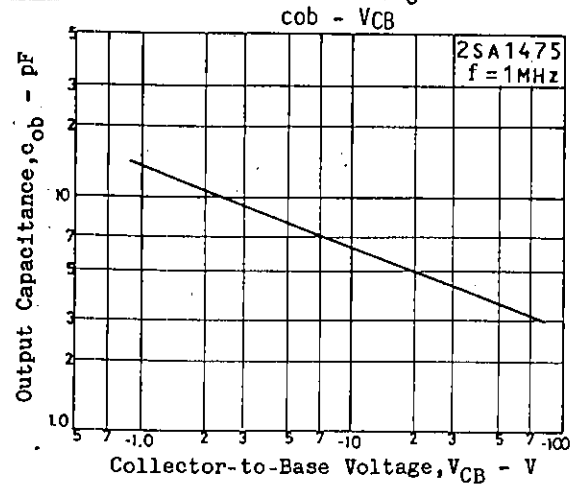


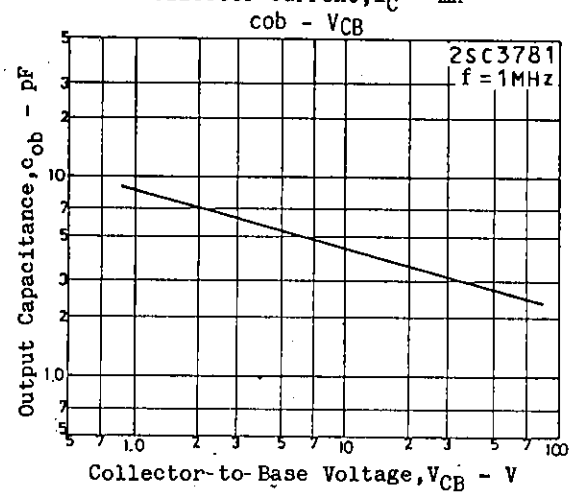


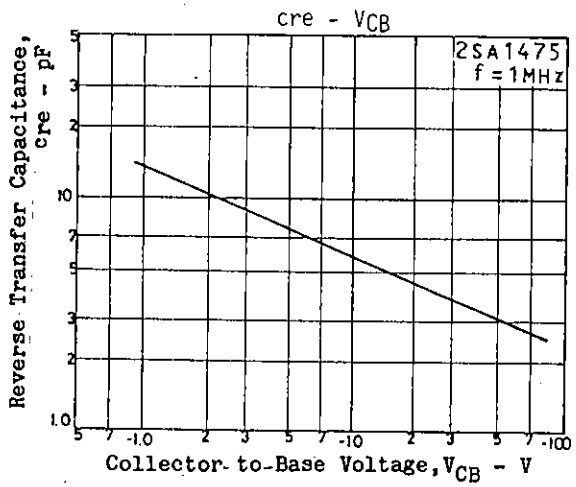


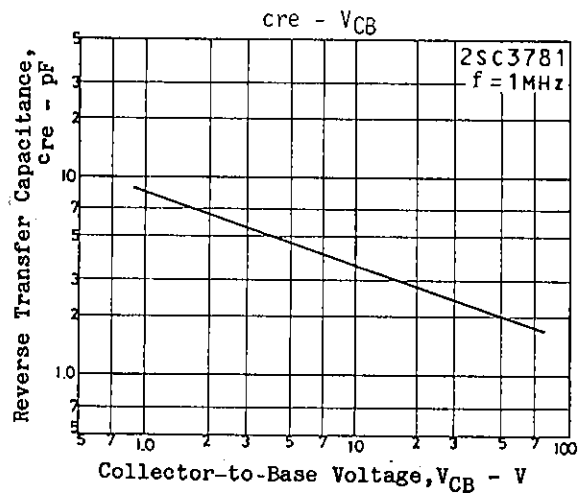

fT - IC
2SA1475
VCE=-10V
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA

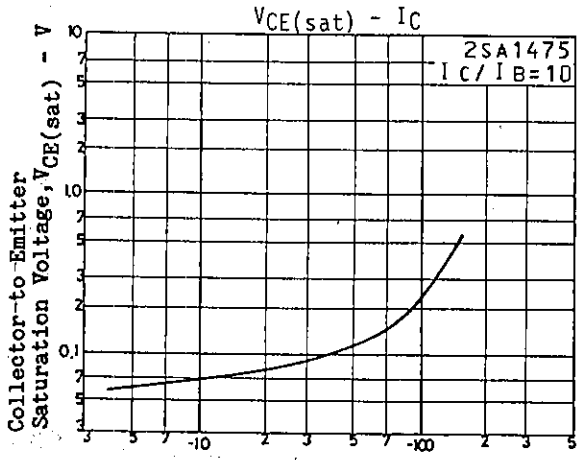

fT - IC
2SC3781
VCE=10V
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA

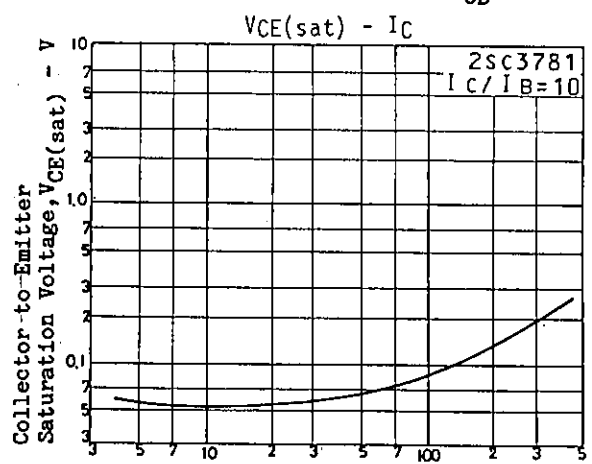

cob - VCB
2SA1475
f=1MHz
Output Capacitance, Cob - pF
Collector-to-Base Voltage, VCB - V


cob - VCB
2SC3781
f=1MHz
Output Capacitance, Cob - pF
Collector-to-Base Voltage, VCB - V

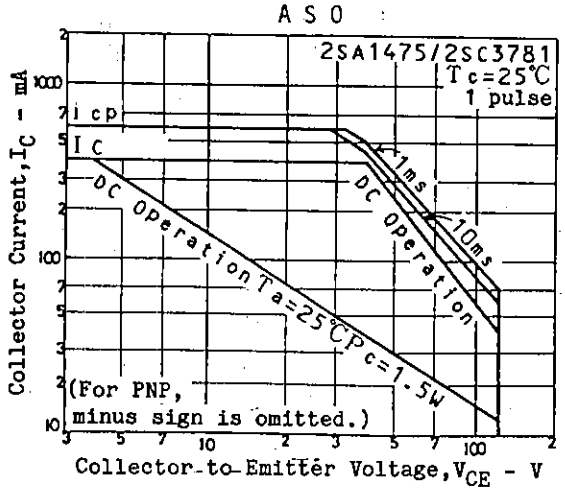

cre - VCB
2SA1475
f=1MHz
Reverse Transfer Capacitance, cre - pF
Collector-to-Base Voltage, VCB - V


cre - VCB
2SC3781
f=1MHz
Reverse Transfer Capacitance, cre - pF
Collector-to-Base Voltage, VCB - V


VCE(sat) - IC
2SA1475
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - V


VCE(sat) - IC
2SC3781
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - V

ASO



P_C - T_a