



SANYO Semiconductors

DATA SHEET

2SA1682 — PNP Epitaxial Planar Silicon Transistor

TV Camera Deflection, High-Voltage Driver Applications

Features

- High breakdown voltage ($V_{CEO} \geq 300V$).
- Small reverse transfer capacitance and excellent high frequency characteristic ($C_{re} : 1.5pF$ typ).
- Excellent DC current gain ratio (h_{FE} ratio : 1.0 typ).
- Adoption of FBET process.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-300	V
Collector-to-Emitter Voltage	V_{CEO}		-300	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-50	mA
Collector Current (Pulse)	I_{CP}		-100	mA
Collector Dissipation	P_C		250	mW
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -200V, I_E = 0A$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0A$			-0.1	μA

Marking : CS

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2SA1682

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=-6V, I_C=-0.1mA$	100*		320*	
	h_{FE2}	$V_{CE}=-6V, I_C=-1mA$	100			
Gain-Bandwidth Product	f_T	$V_{CE}=-30V, I_C=-10mA$		70		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10mA, I_B=-1mA$			-1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10mA, I_B=-1mA$			-1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0A$	-300			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-300			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0A$	-5			V
Output Capacitance	C_{ob}	$V_{CB}=-30V, f=1MHz$		2.4		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=-30V, f=1MHz$		1.5		pF
DC Current Gain Ratio	h_{FE} ratio	h_{FE1} / h_{FE2}		1.0		

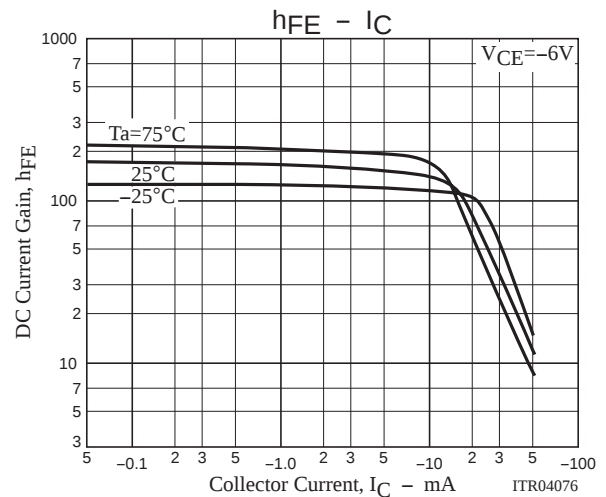
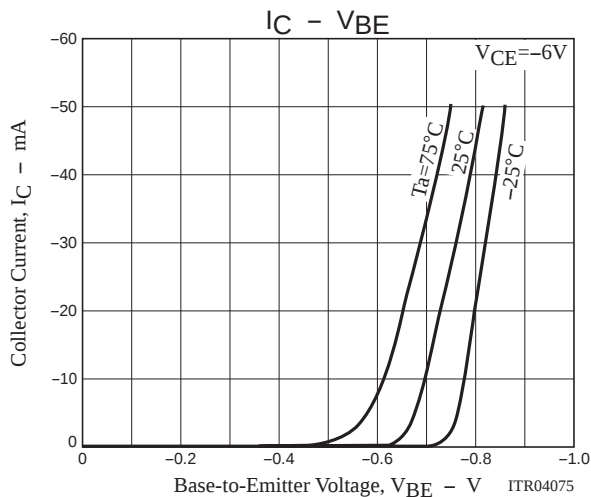
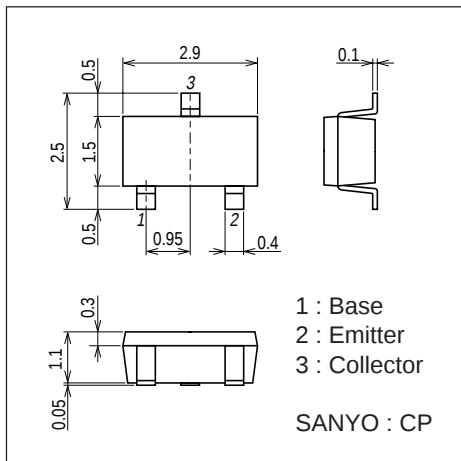
* : The 2SA1682 is classified by 0.1mA h_{FE} as follows :

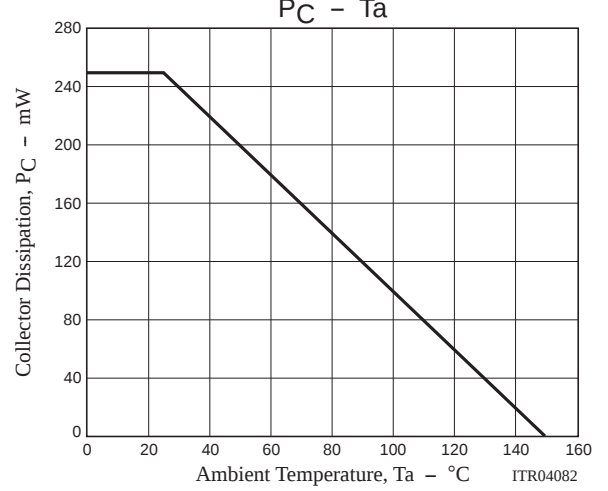
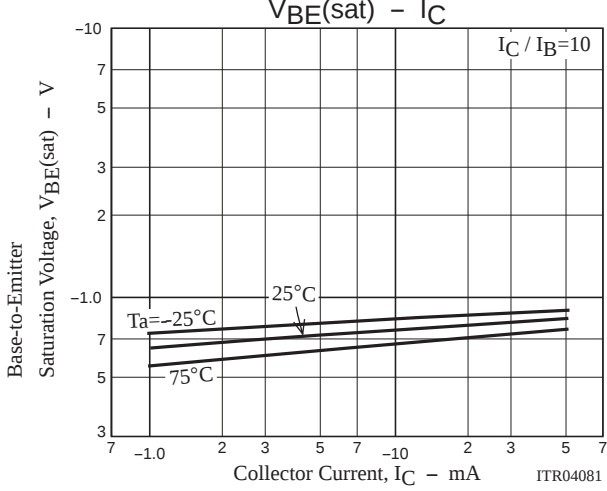
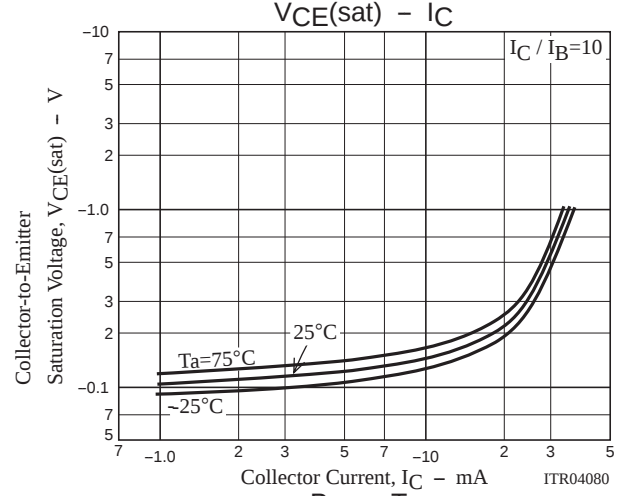
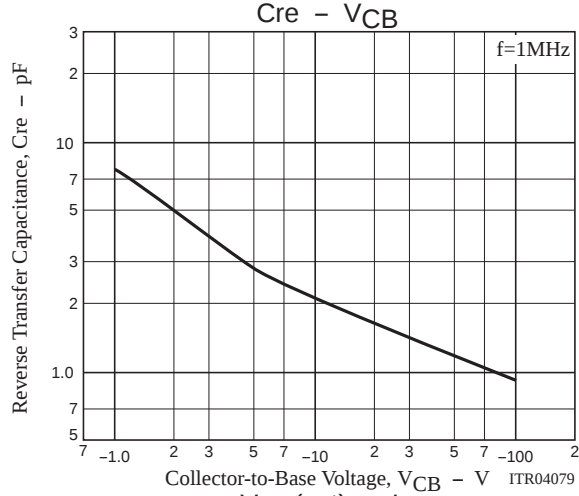
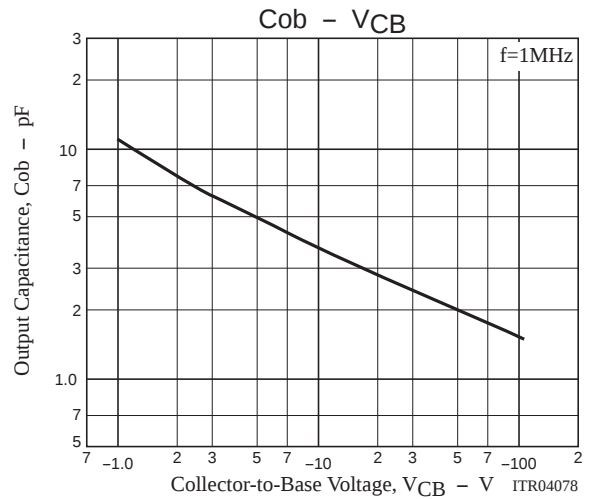
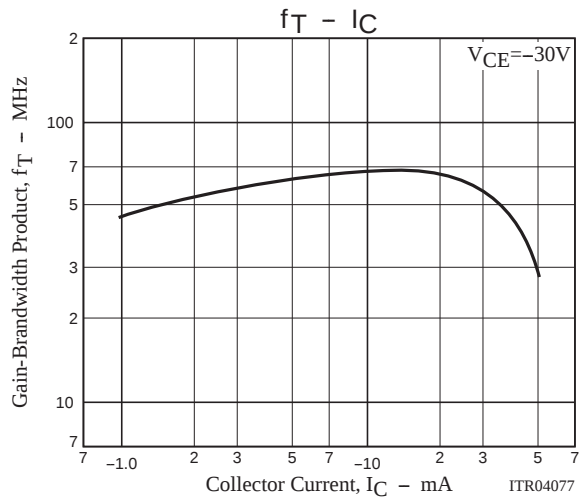
Rank	4	5
h_{FE}	100 to 200	160 to 320

Package Dimensions

unit : mm (typ)

7013A-009





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