

**2SA1682**

TV Camera Deflection, High-Voltage Driver Applications

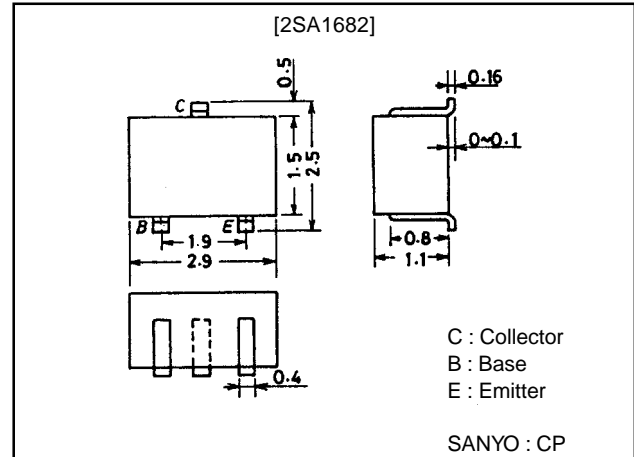
Features

- High breakdown voltage ($V_{CE0} \geq 300V$).
- 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.

Package Dimensions

unit:mm

2018A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-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}	$V_{CB} = -200V, I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.1	μA
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

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

100	4	200	160	5	320
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Note : Marking : CS

 h_{FE} rank : 4, 5

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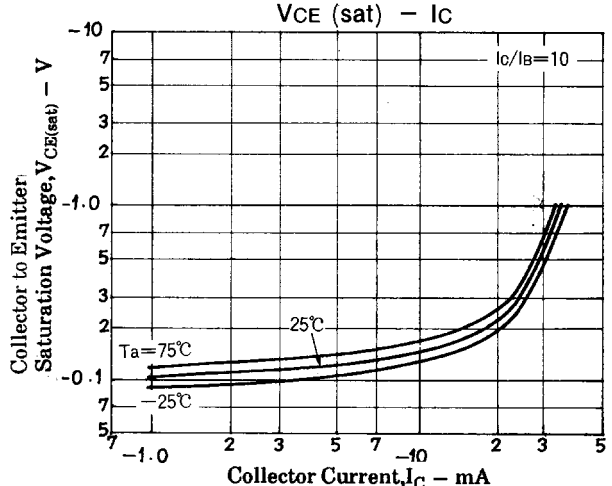
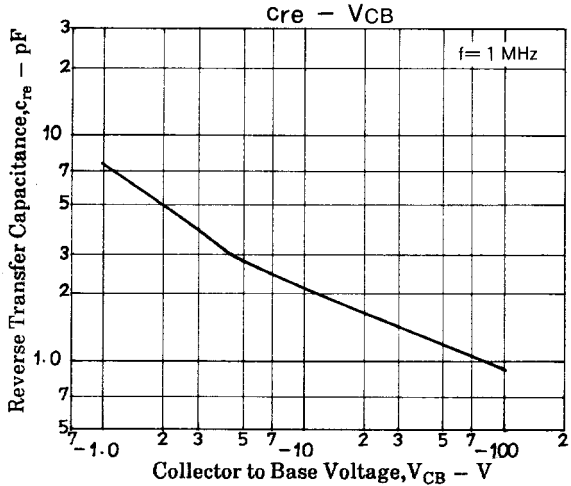
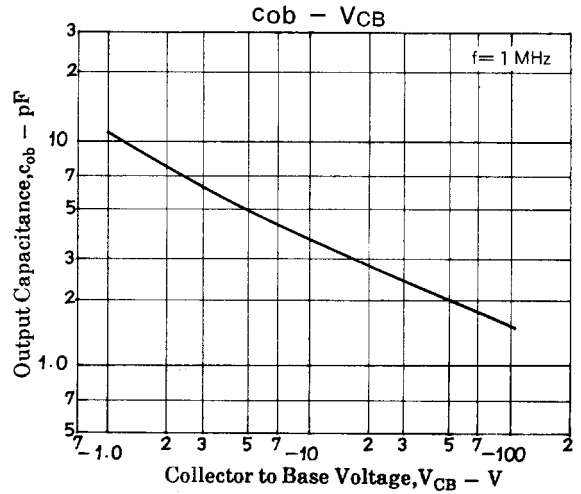
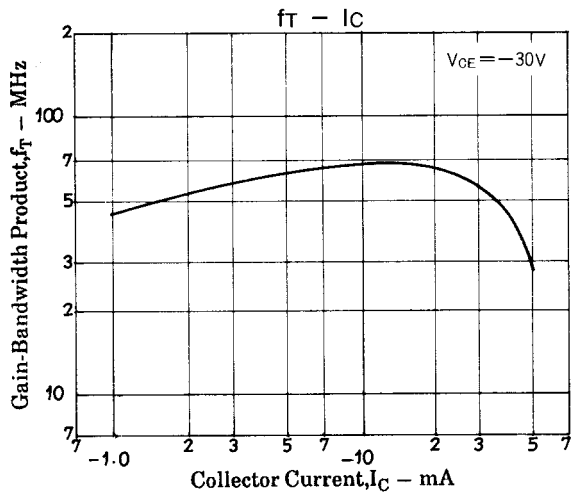
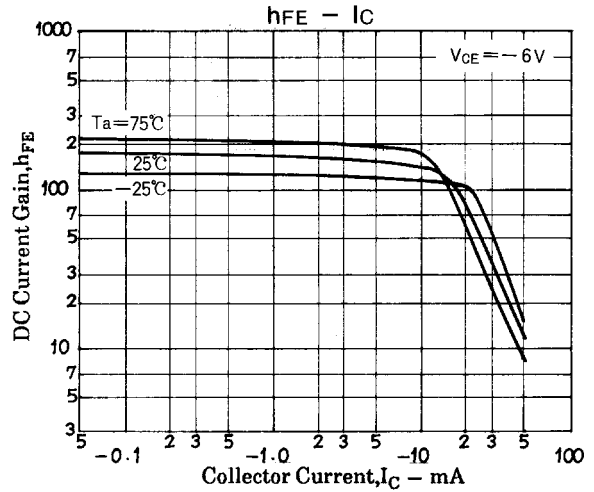
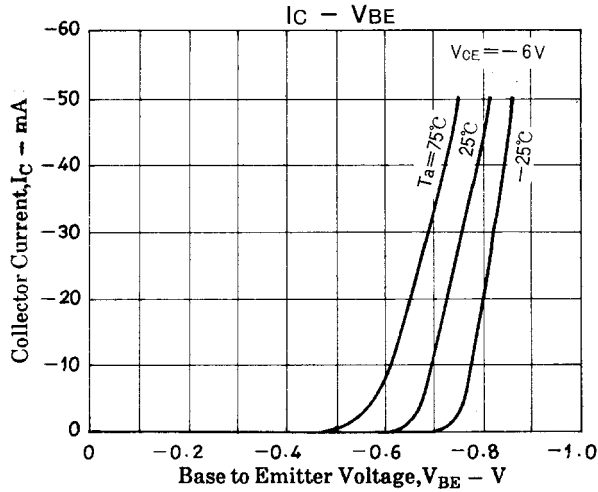
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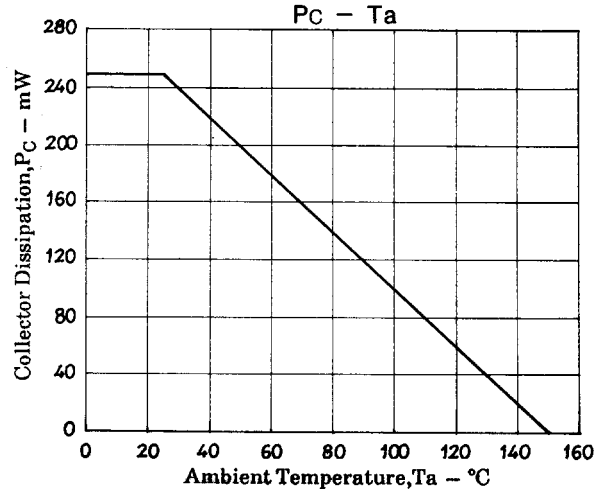
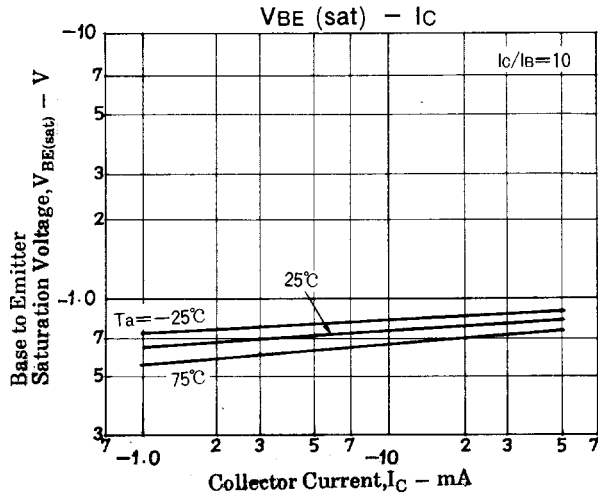
SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

2SA1682

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-300			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-300			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = \infty$	-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		





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