Ordering number:ENN3233

PNP Epitaxial Planar Silicon Transistors

2SA1689

TV Camera Deflection High-Voltage Driver Applications

Features

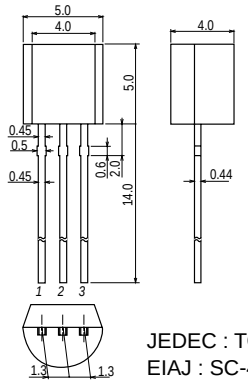
- High breakdown voltage.
- Small reverse transfer capacitance and excellent high frequency characteristic.
- Excellent DC current gain.
- Adoption of FBET process.

Package Dimensions

unit:mm

2003B

[2SA1689]



JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

1 : Emitter
2 : Collector
3 : Base

Specifications

Absolute Maximum Ratings at Ta = 25˚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		600	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚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	$h_{FE}1$	V_{CE}=–6V, I_C=–0.1mA	100		320	
	$h_{FE}2$	V_{CE}=–6V, I_C=–1mA	100			
Gain-Bandwidth Product	f_T	V_{CE}=–30V, I_C=–10mA		70		MHz

* : The 2SA1689 is classified by 0.1mA h_{FE} as follows :

Rank	E	F
h_{FE}	100 to 200	160 to 320

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Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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=–10μA, I_E=0	–300			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–300			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	–5			V
Collector 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	$h_{FE}1/h_{FE}2$		1.0