Transistors

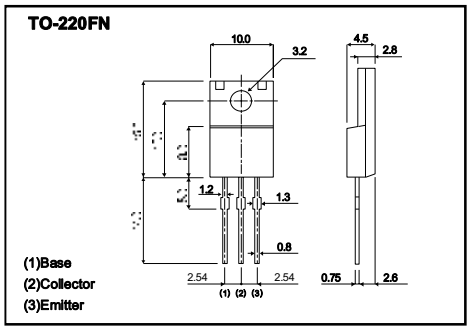
For Audio Amplifier output - TV Velosity Modulation (−160V, −1.5A)

2SA2005

●**Structure**
PNP Silicon Epitaxial Planar Transistor

●**Features**
1) Electrical characteristics of DC current gain h_{FE} is flat.
2) High breakdown voltage. (BV_{CEO}= –160V(Min.), at I_C= –1mA)
3) High f_T. (Typ. 150MHz, at V_{CE}= 10V, I_E=0.2A, f=100MHz)
4) Wide SOA.

●**External dimensions** (Unit : mm)



●**Applications**
Power amplifier
Velosity modulation

●**Complements**

PNP	NPN
2SA2005	2SC5511

●**Absolute maximum ratings** (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	−160	V
Collector-emitter voltage		V_{CEO}	−160	V
Emitter-base voltage		V_{EBO}	−5	V
Collector current	DC	I_C	−1.5	A
	Pulse	I_{CP}	−3	A *1
Collector power dissipation		P_C	2	W(Ta=25°C)
			20	W(Tc=25°C)
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

*1 t=100ms

●**Packaging specifications and h_{FE}**

Type		Package	Taping
		Code	–
	h_{FE}	Basic ordering unit (pieces)	500
2SC5511E			○

h_{FE} values are classified as follows:

Item	E
h_{FE}	100 to 200

●**Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	−160	–	–	V	I_C= −1mA
Collector-base breakdown voltage	BV_{CBO}	−160	–	–	V	I_C= −50μA
Emitter-base breakdown voltage	BV_{EBO}	−5	–	–	V	I_E= −50μA
Collector cutoff current	I_{CBO}	–	–	−1.0	μA	V_{CB}= −160V
Emitter cutoff current	I_{EBO}	–	–	−1.0	μA	V_{EB}= −4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	−1.0	V	I_C/I_B= −1A/ −0.1A
Base-emitter saturation voltage	$V_{BE(sat)}$	–	—	1.5V		I_C/I_B= −1A/ −0.1A
DC current gain	h_{FE}	100	–	200	–	V_{CE}= −5V, I_C= −0.1A
Transition frequency	f_T	–	150	–	MHz	V_{CE}= −10V, I_E=0.2A , f=100MHz
Collector output capacitance	Cob	–	35	–	pFV	$_{CB}$= −10V , I_E=0A , f=1MHz

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