

Transistors

For Audio Amplifier output - TV Velocity 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. ($BV_{CEO} = -160V(\text{Min.})$, at $I_C = -1mA$)
- 3) High f_T . (Typ. 150MHz, at $V_{CE} = -10V$, $I_E = 0.2A$, $f = 100MHz$)
- 4) Wide SOA.

●Applications

Power amplifier
Velocity modulation

●Absolute maximum ratings ($T_a = 25^\circ C$)

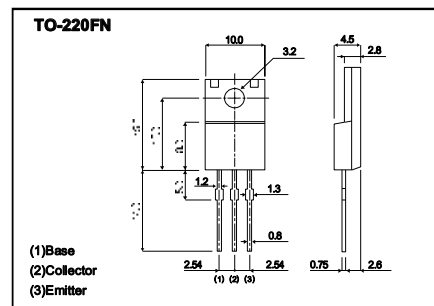
Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CB0}	-160	V	
Collector-emitter voltage	V_{CE0}	-160	V	
Emitter-base voltage	V_{EB0}	-5	V	
Collector current	DC	I_C	-1.5	A
	Pulse	I_{CP}	-3	A ^{*1}
Collector power dissipation	P_C	2	W($T_a = 25^\circ C$)	
		20	W($T_c = 25^\circ C$)	
Junction temperature	T_J	150	$^\circ C$	
Storage temperature	T_{stg}	-55 to +150	$^\circ C$	

*1 $t = 100ms$

●Electrical characteristics ($T_a = 25^\circ C$)

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	$I_C = -50\mu A$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -50\mu A$
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	$V_{BE(sat)}$	-	-	-1.5	V	$I_C/I_B = -1A/-0.1A$
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	C_{ob}	-	35	-	pF	$V_{CB} = -10V$, $I_E = 0A$, $f = 1MHz$

●External dimensions (Unit : mm)



●Complements

PNP	NPN
2SA2005	2SC5511

●Packaging specifications and h_{FE}

Type	h_{FE}	Package	Taping
		Code	-
2SC5511	E	Basic ordering unit (pieces)	500
			○

 h_{FE} values are classified as follows:

Item	E
h_{FE}	100 to 200

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