2SD2033A

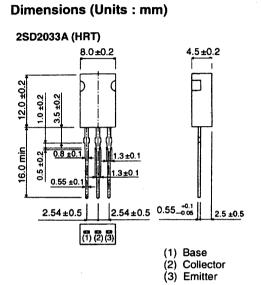
Transistor, NPN

Features

- available in HRT package
- high breakdown voltage: BV_{CEO} = 160 V
- high transition frequency (f_T) and low output capacitance (C_{ob})
- wide safe operating area (SOA)

Applications

low frequency power amplifier



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

Parameter	Symbol	Limits	Unit	Conditions	100
Collector-to-base voltage	V _{CBO}	160	V		-
Collector-to-emitter voltage	V _{CEO}	160	V		
Emitter-to-base voltage	V _{EBO}	5	V		
Collector current	l _C	1.5	Α	Continuous (dc)	200
		3	A	Single pulse, P _W = 100 ms	14
Collector dissipation	Pc	1.8	W		**
Junction temperature	T _j	150	°C	:	3
Storage temperature	T _{stg}	−55 ~ +150	°C		*

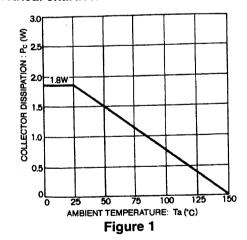
Electrical characteristics (unless otherwise noted, $T_a = 25$ °C)

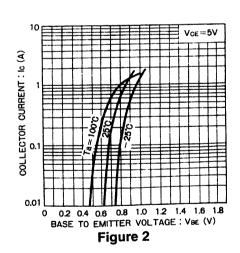
Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV _{CBO}	160			V	$I_C = 50 \mu A$
Collector-to-emitter breakdown voltage	BV _{CEO}	160			V	I _C = 1 mA
Emitter-to-base breakdown voltage	BV _{EBO}	5			V	I _E = 50 μA
Collector cutoff current	Ісво			1.0	μА	V _{CB} = 120 V
Emitter cutoff current	I _{EBO}			1.0	μΑ	V _{EB} = 4 V
DC current gain	h _{FE}	60		200		$V_{CE} = 5 \text{ V}, I_{C} = 0.1 \text{ A}$
Collector-to-emitter saturation voltage	V _{CE(sat)}			2.0	٧	$I_{\rm C}/I_{\rm B} = 1$ A/0.1 A, single pulse
Base-to-emitter saturation voltage	V _{BE(sat)}			1.5	٧	$I_C/I_B = 1 \text{ A}/0.1 \text{ A, single pulse}$
Transition frequency	f _T		80		MHz	$V_{CE} = 5 \text{ V}, I_{E} = -0.1 \text{ A}, f = 30 \text{ MHz}$
Output capacitance	C _{ob}		20		pF	$V_{CB} = 10 \text{ V}, I_{E} = 0 \text{ A}, f = 1 \text{ MHz}$

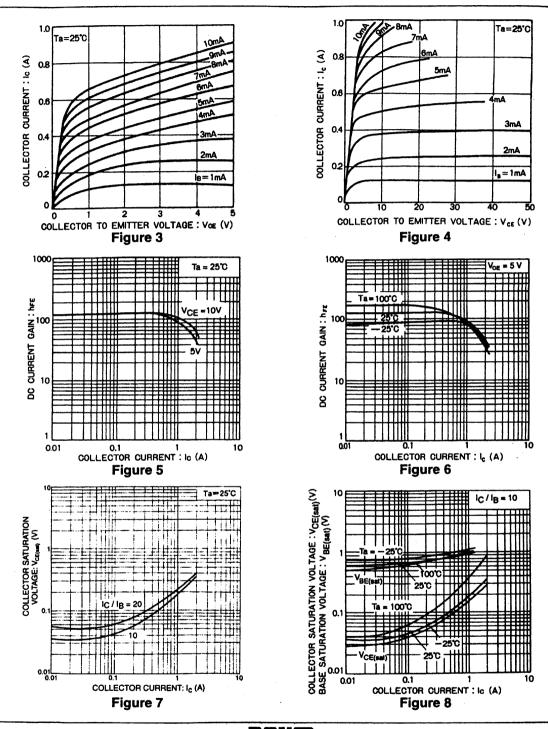
h_{FE} rankings

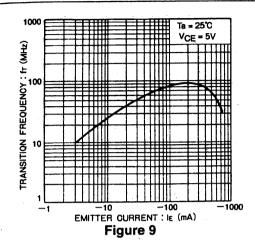
Item	D	E
h _{FE}	60 ~120	100 ~ 200

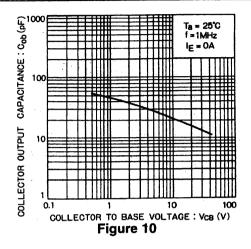
Electrical characteristic curves











Ordering information

Package	Tape
Code	T114
Basic order quantity	1 000
2SD2033A	*
★ = Standard, ☆ = Semi-	-standard, * = Special order

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