

Power Transistor (-50V, -2A)

2SB1443

●Features

- 1) Low saturation voltage. $V_{CE(sat)} = -0.35V$ (Max.) at $I_C / I_B = -1A / -50mA$.
- 2) Excellent DC current gain characteristics.

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_C	-2	A (DC)
		-5	A (Pulse) *1
Collector power dissipation	P_C	1	W *2
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~+150	°C

*1 Single pulse, $P_w=10ms$

*2 Printed circuit board 1.7mm thick, collector plating $1cm^2$ or larger.

●Packaging specifications and hFE

Type	2SB1443
Package	ATV
hFE	Q
Marking	-
Code	TV2
Basic ordering unit (pieces)	2500

*Denotes hFE

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-50	-	-	V	$I_C=-50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-50	-	-	V	$I_C=-1mA$
Emitter-base breakdown voltage	BV_{EBO}	-6	-	-	V	$I_E=-50\mu A$
Collector cutoff current	I_{CBO}	-	-	-0.1	μA	$V_{CB}=-50V$
Emitter cutoff current	I_{EBO}	-	-	-0.1	μA	$V_{EB}=-5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.15	-0.35	V	$I_C/I_B=-1A/-50mA$ *
DC current transfer ratio	hFE	120	-	270	-	$V_{CE}/I_C=-2V/-0.5A$
Transition frequency	f_T	-	200	-	MHz	$V_{CE}=-2V, I_E=0.5A, f=100MHz$
Output capacitance	C_{ob}	-	36	-	pF	$V_{CB}=-10V, I_E=0A, f=1MHz$ *

* Measured using pulse current

Transistors

●電気的特性曲線

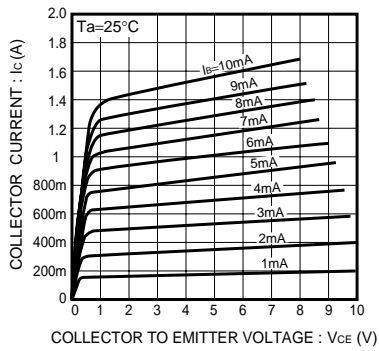


Fig.1 Grounded emitter output characteristics

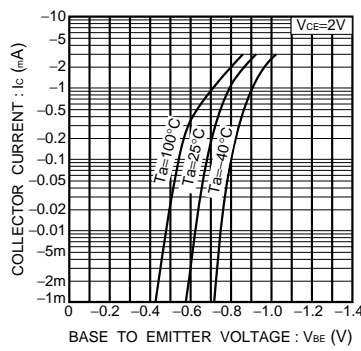


Fig.2 Grounded emitter propagation characteristics

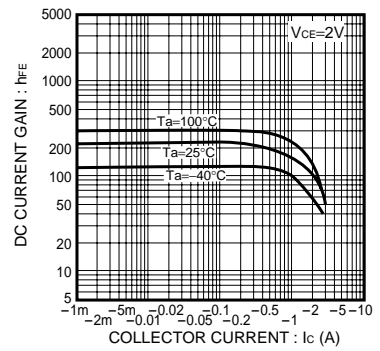


Fig.3 DC current gain vs. collector current

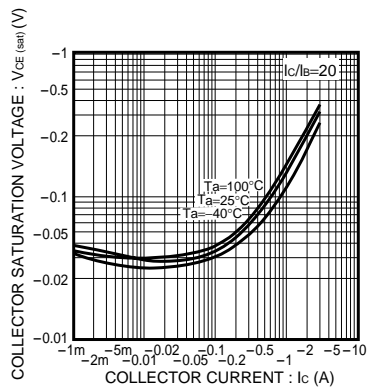


Fig.4 Collector-emitter saturation voltage vs. collector current

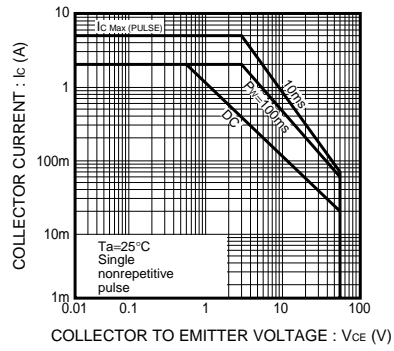


Fig.5 Safe operating area

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