

# Power Transistor (-50V, -2A)

**2SB1443**
**●Features**

1) Low saturation voltage.

$$V_{CE(sat)} = -0.35V \text{ (Max.) at } I_C / I_B = -1A / -50mA.$$

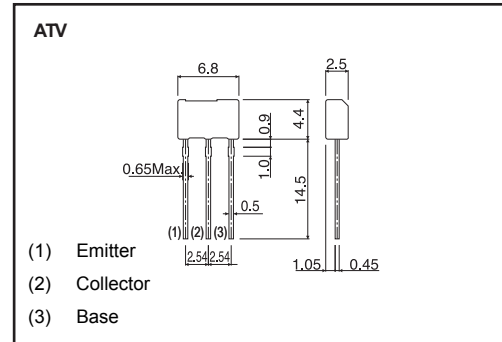
2) Excellent DC current gain characteristics.

**●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 to +150	°C

 \*1 Single pulse,  $P_w=10ms$ 

 \*2 Printed circuit board 1.7mm thick, collector plating 1cm<sup>2</sup> or larger.

**●Dimensions (Unit : mm)**

**●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	$\mu A$	$V_{CB} = -50V$
Emitter cutoff current	$I_{EBO}$	-	-	-0.1	$\mu A$	$V_{EB} = -5V$
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

●Electrical characteristics curves

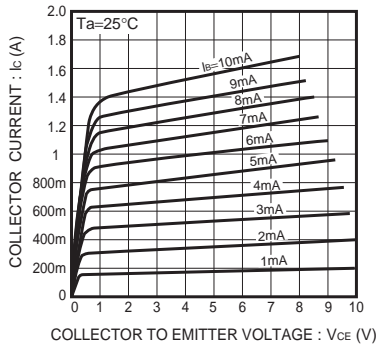


Fig.1 Grounded Emitter Output Characteristics

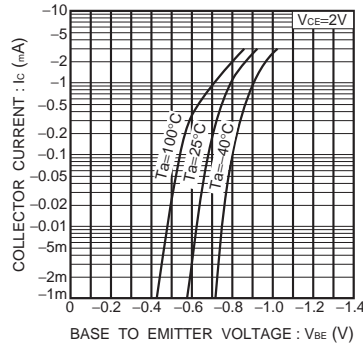


Fig.2 Grounded Emitter Propagation Characteristics

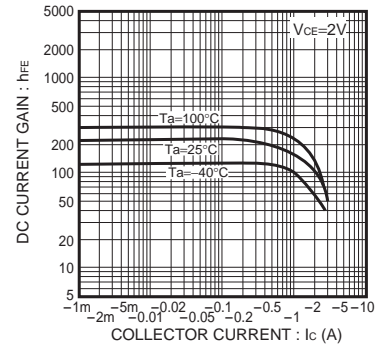


Fig.3 DC Current Gain vs. Collector Current

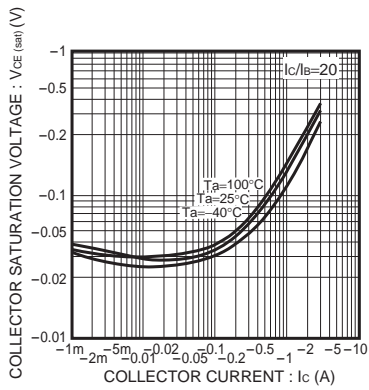


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

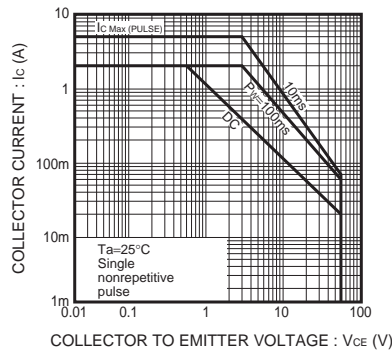


Fig.5 Safe Operating Area

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