

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.

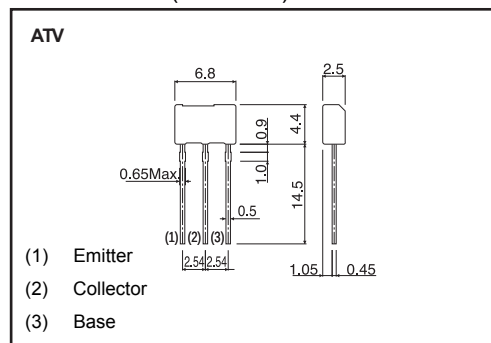
●Absolute maximum ratings (Ta=25°C)

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 to +150	°C

 *1 Single pulse, $P_w=10ms$

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

●Dimensions (Unit : mm)



●Packaging specifications and h_{FE}

Type	2SB1443
Package	ATV
h_{FE}	Q
Marking	–
Code	TV2
Basic ordering unit (pieces)	2500

 *Denotes h_{FE}

●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	h_{FE}	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

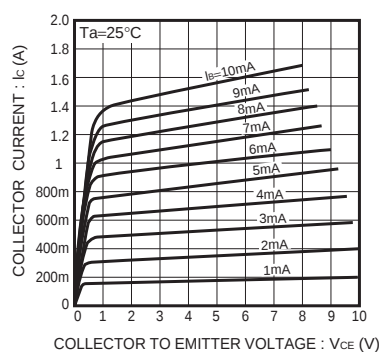


Fig.1 Grounded Emitter Output Characteristics

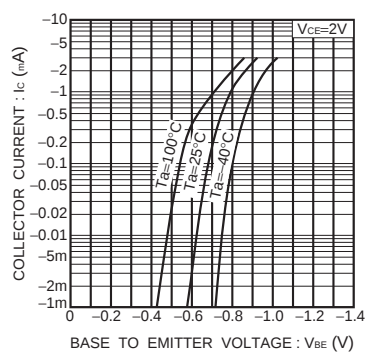


Fig.2 Grounded Emitter Propagation Characteristics

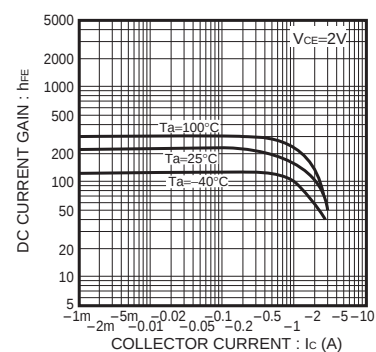


Fig.3 DC Current Gain vs. Collector Current

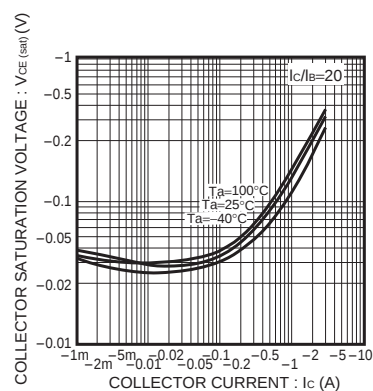


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

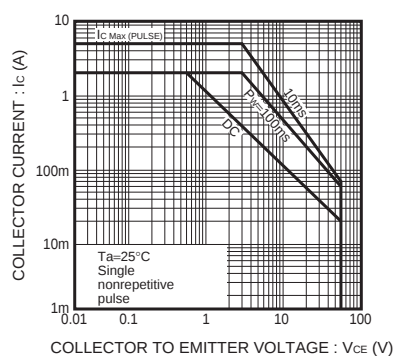


Fig.5 Safe Operating Area

Notes

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