

# Power Transistor (−160V , −1.5A)

## 2SB1275 / 2SB1236A

●Features

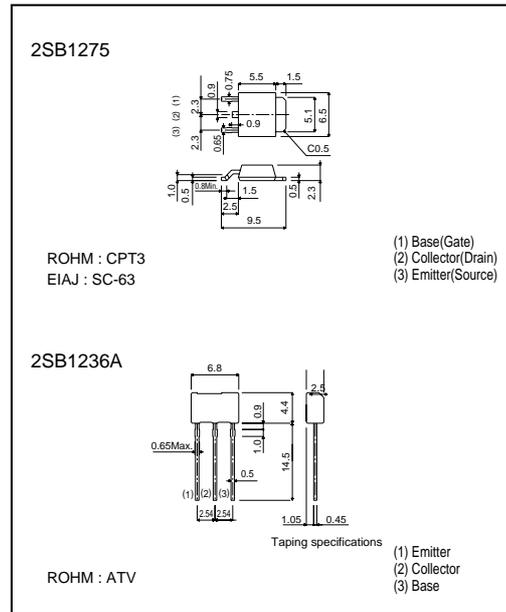
- 1) High breakdown voltage.( $BV_{CEO} = -160V$ )
- 2) Low collector output capacitance.  
(Typ. 30pF at  $V_{CB} = 10V$ )
- 3) High transition frequency.( $f_T = 50MHz$ )
- 4) Complements the 2SD1918 / 2SD1857A.

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-160	V
Collector-emitter voltage	$V_{CEO}$	-160	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-1.5	A(DC)
		-3	A(Pulse) *1
Collector power dissipation	$P_C$	1	W(Tc=25°C)
		10	
Junction temperature	$T_J$	1	W
		150	
Storage temperature	$T_{stg}$	-55→+150	°C

\*1 Single pulse Pw=100ms  
\*2 Printed circuit board 1.7mm thick, collector plating 1cm<sup>2</sup> or larger.

●External dimensions (Unit : mm)



●Packaging specifications and hFE

Type	2SB1275	2SB1236A
Package	CPT3	ATV
hFE	P	PQ
Code	TL	TV2
Basic ordering unit (pieces)	2500	2500

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-160	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-160	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-5	-	-	V	$I_E = -50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	-1	$\mu A$	$V_{CB} = -120V$
Emitter cutoff current	$I_{EBO}$	-	-	-1	$\mu A$	$V_{EB} = -4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-2	V	$I_C/I_B = -1A/-0.1A$ *
DC current transfer ratio	2SB1275	82	-	180	-	$V_{CE} = -5V, I_C = -0.1A$
	2SB1236A	82	-	270	-	
Transition frequency	$f_T$	-	50	-	MHz	$V_{CE} = -5V, I_E = 0.1A, f = 30MHz$
Output capacitance	$C_{ob}$	-	30	-	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

\*Measured using pulse current.

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●Electrical characteristics curves

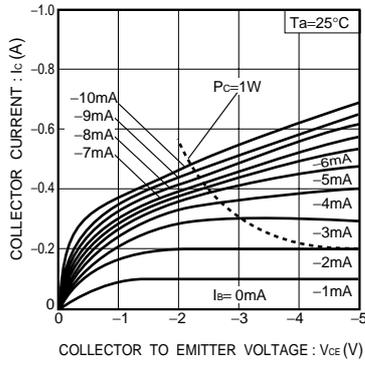


Fig.1 Ground emitter output characteristics

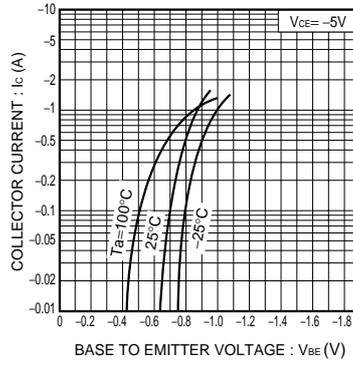


Fig.2 Ground emitter propagation characteristics

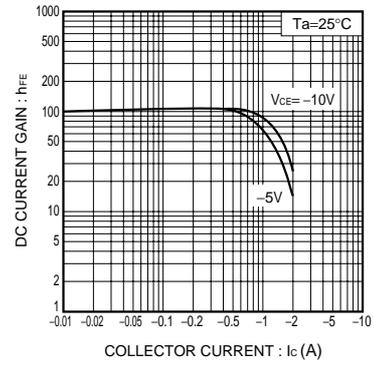


Fig.3 DC current gain vs. collector current ( I )

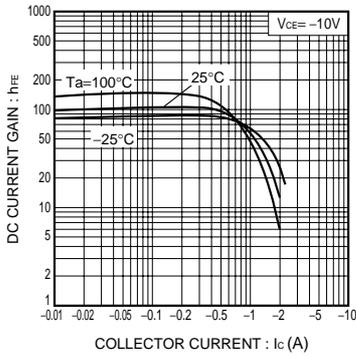


Fig.4 DC current gain vs. collector current ( II )

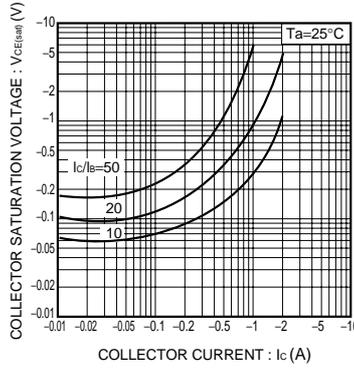


Fig.5 Collector-emitter saturation voltage vs. collector current

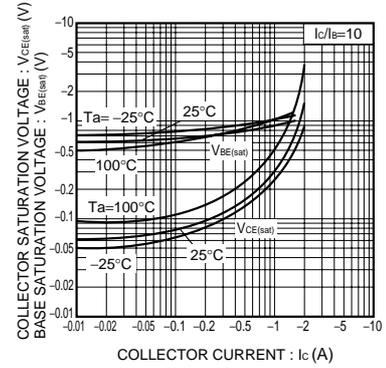


Fig.6 Collector-emitter saturation voltage Base-emitter saturation voltage vs. collector current

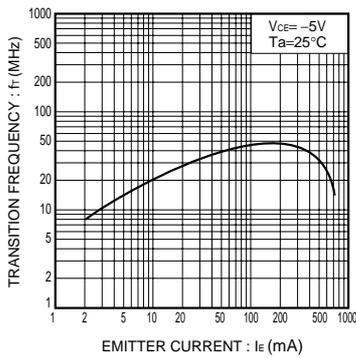


Fig.7 Resistance ratio vs. emitter current

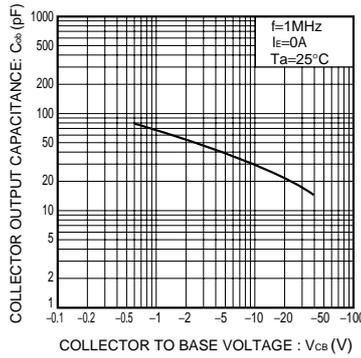


Fig.8 Collector output capacitance vs. collector-base voltage

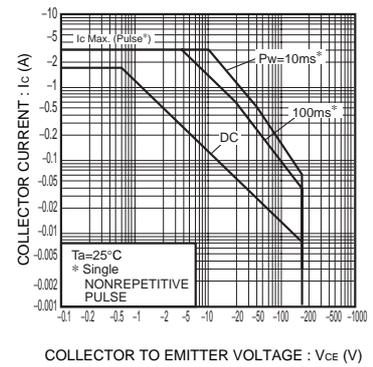
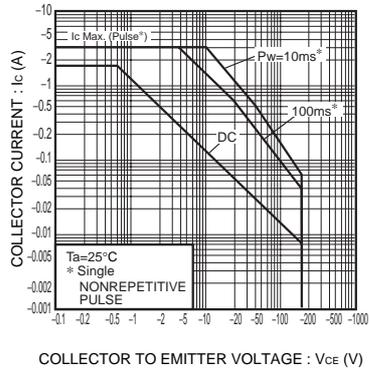


Fig.9 Safe operating area (2SB1236A)

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