

# 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 ( $T_a = 25^\circ C$ )

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( $T_C = 25^\circ C$ )
		10	
		1	W *2
Junction temperature	$T_J$	150	$^\circ C$
Storage temperature	$T_{stg}$	–55 to +150	$^\circ C$

\* 1 Single pulse  $P_w = 100ms$

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

### ●Packaging specifications and $h_{FE}$

Type	2SB1275	2SB1236A
Package	CPT3	ATV
$h_{FE}$	P	D
Code	TL	TV2
Basic ordering unit (pieces)	2500	2500

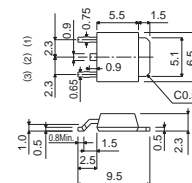
### ●Electrical characteristics ( $T_a = 25^\circ C$ )

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	$h_{FE}$	82	–	180	–	$V_{CE} = -5V$ , $I_C = -0.1A$
		100	–	200	–	
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.

### ●Dimensions (Unit : mm)

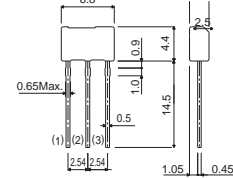
#### 2SB1275



ROHM : CPT3  
EIAJ : SC-63

(1) Base(Gate)  
(2) Collector(Drain)  
(3) Emitter(Source)

#### 2SB1236A



ROHM : ATV

Taping specifications

(1) Emitter  
(2) Collector  
(3) Base

## ●Electrical characteristics curves

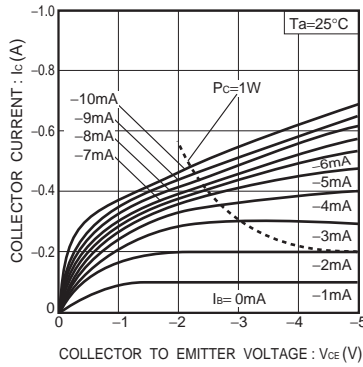


Fig.1 Ground emitter output characteristics

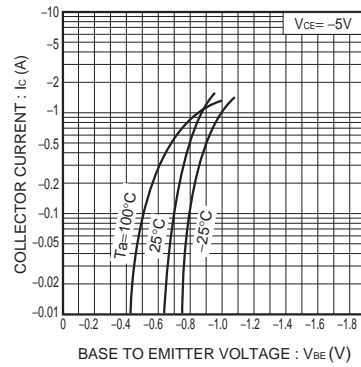


Fig.2 Ground emitter propagation characteristics

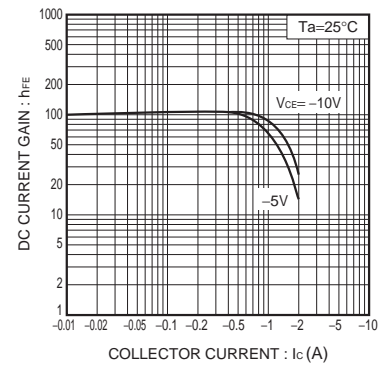


Fig.3 DC current gain vs. collector current ( I )

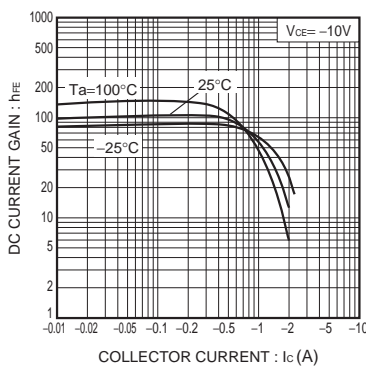


Fig.4 DC current gain vs. collector current ( II )

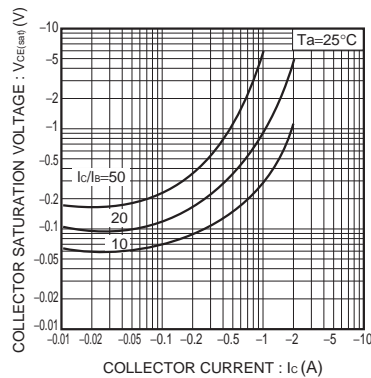


Fig.5 Collector-emitter saturation voltage vs. collector current

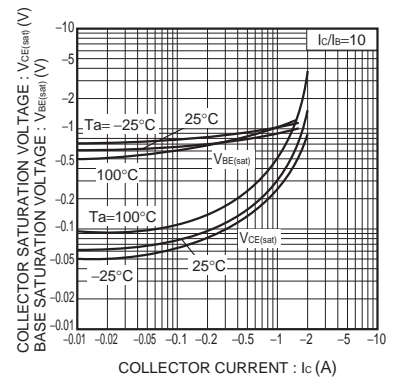


Fig.6 Collector-emitter saturation voltage vs. collector current

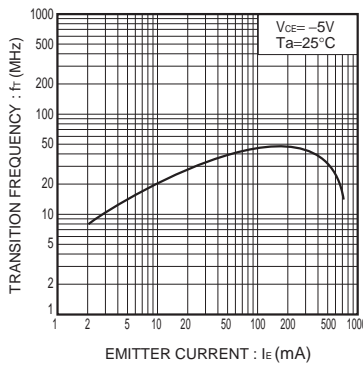


Fig.7 Resistance ratio vs. emitter current

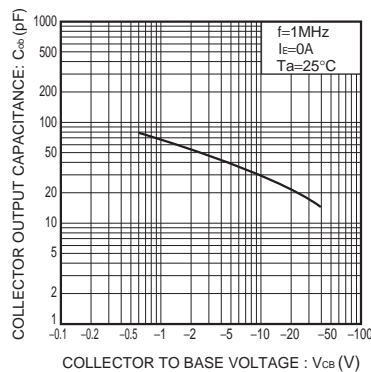


Fig.8 Collector output capacitance vs. collector-base voltage

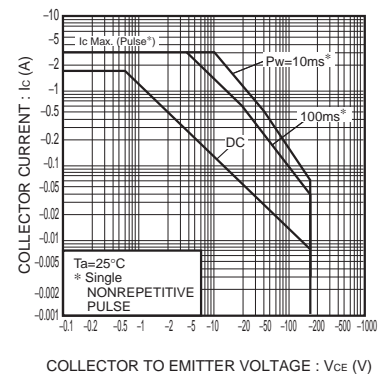


Fig.9 Safe operating area (2SB1236A)

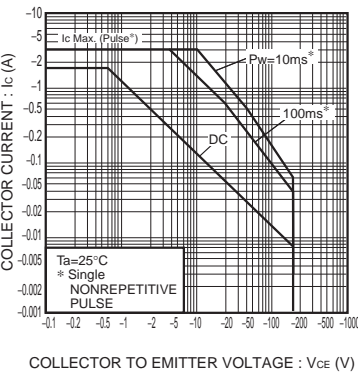


Fig.10 Safe operating area (2SB1275)

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