

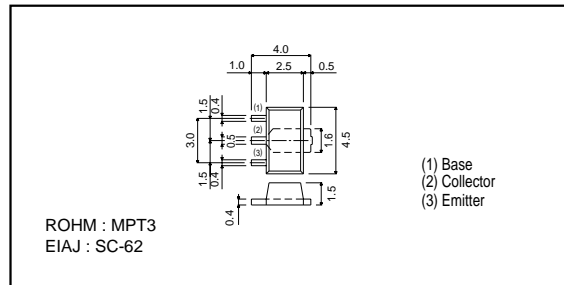
# Power Transistor (31±4V, 2A)

## 2SD2167

### ●Features

- 1) Built-in zener diode between collector and base.
- 2) Zener diode has low voltage dispersion.
- 3) Strong protection against reverse power surges due to low loads.
- 4)  $P_c=2$  W (on 40×40×0.7mm ceramic board)

### ●External dimensions (Units : mm)



### ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CB0}$	31±4	V
Collector-emitter voltage	$V_{CE0}$	31±4	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_c$	2	A(DC)
		3	A(Pulse) *1
Collector power dissipation	$P_c$	0.5	W
		2	W *2
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C

\*1  $P_w=20$ ms, duty=1/2

\*2 When mounted on a 40 × 40 × 0.7 mm ceramic board.

### ●Packaging specifications and hFE

Type	2SD2167
Package	MPT3
hFE	NPQ
Marking	DL*
Code	T100
Basic ordering unit (pieces)	1000

\* Denotes hFE

### ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CB0}$	27	—	35	V	$I_c = 50\mu A$
Collector-emitter breakdown voltage	$BV_{CE0}$	27	—	35	V	$I_c = 1$ mA
Emitter-base breakdown voltage	$BV_{EB0}$	5	—	—	V	$I_E = 50\mu A$
Collector cutoff current	$I_{CB0}$	—	—	1	$\mu A$	$V_{CB} = 20$ V
Emitter cutoff current	$I_{EB0}$	—	—	1	$\mu A$	$V_{EB} = 5$ V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	$I_c/I_E = 2A/0.2A$
		—	0.25	0.5	V	$I_c/I_E = 1A/50mA$
DC current transfer ratio	hFE	56	—	270	—	$V_{CE}/I_c = 3V/0.5A$
Transition frequency	$f_T$	—	100	—	MHz	$V_{CE} = 3$ V, $I_E = -0.5$ A, $f = 30$ MHz
Output capacitance	$C_{ob}$	—	25	—	pF	$V_{CB} = 10$ V, $I_E = 0$ A, $f = 1$ MHz

\* Measured using pulse current.