ShinDengen

# ST03-43F1

## TVS
## 5.0A, 300W

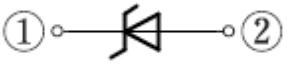
### Feature

- Peak pulse power:300W
- Small SMD
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

### OUTLINE

**Package (House Name):** 1F
**Package (JEDEC Code):** DO-214AC


### Equivalent circuit




### Absolute Maximum Ratings (unless otherwise specified : Tl=25°C)

| Item | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Storage temperature | Tstg | | -55 to 175 | °C |
| Operating junction temperature | Tj | | -55 to 150 | °C |
| Maximum surge reverse current | $I_{RSM}$ | 10/1000μs, Non-repetitive, Exponential wave ※ | 5 | A |
| Maximum surge reverse power | $P_{RSM}$ | 10/1000μs, Non-repetitive ※ | 300 | W |
| Continuous (direct) reverse voltage | $V_{R(DC)}$ | | 33 | V |

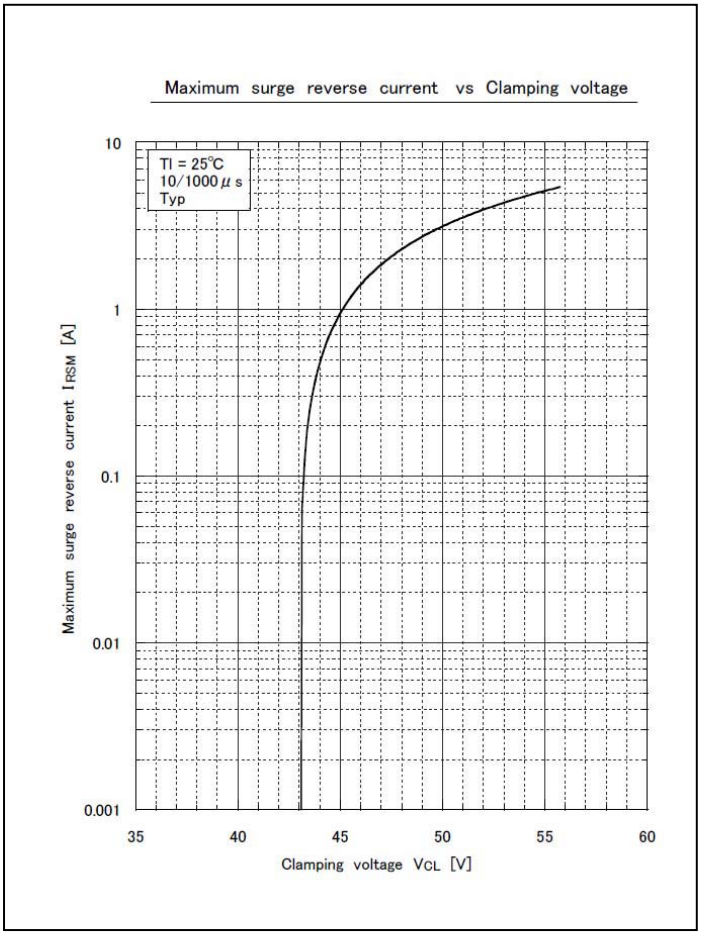
※ :See the original Specifications

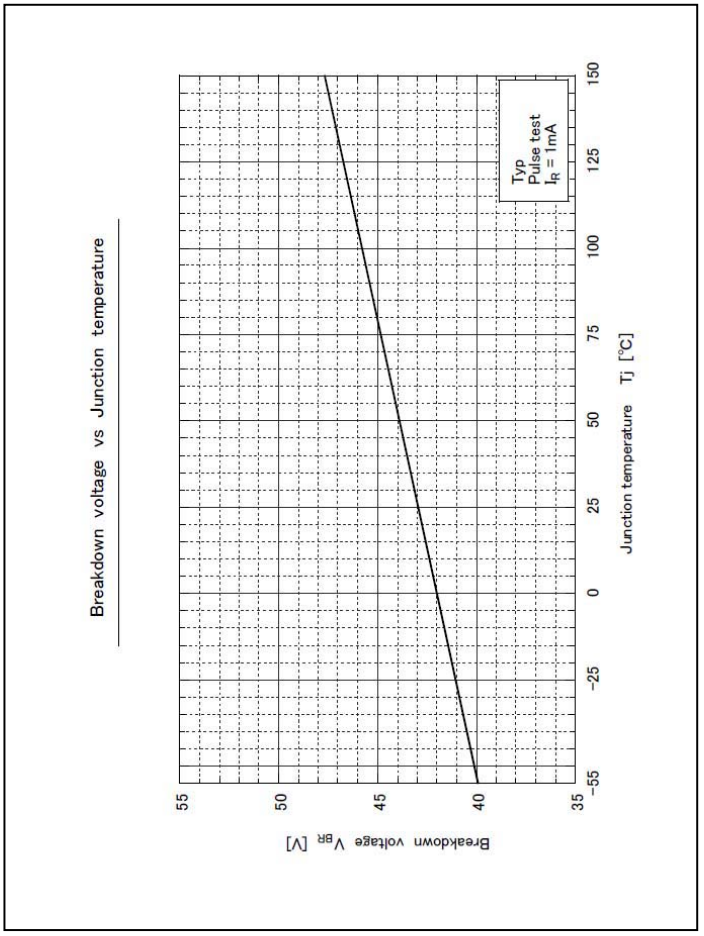
## Electrical Characteristics (unless otherwise specified : Tl=25°C)

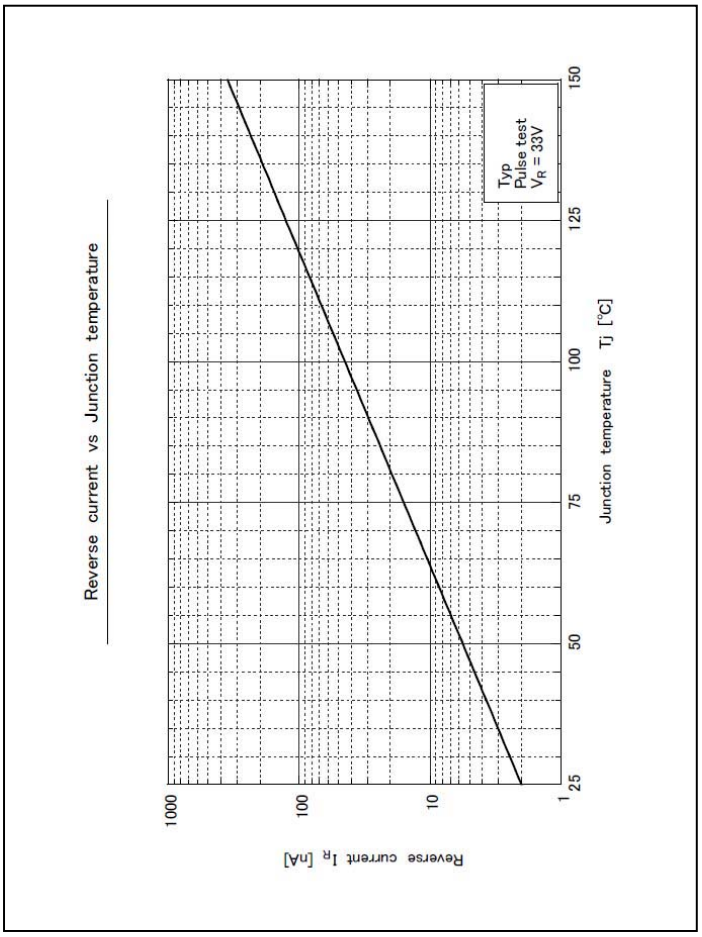
| Item | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | MIN | TYP | MAX | |
| Breakdown voltage | $V_{BR}$ | IR=1mA, Pulse measurement | 40 | | 45 | V |
| Reverse current | $I_R$ | VR=33V, Pulse measurement | | | 5 | μA |
| Electrostatic discharge capability | $V_{ESD}$ | C=330pF, R=330Ω, Polarity±, Aerial discharge ※ | | 30 | | kV |
| Thermal resistance | Rth(j-l) | Junction to lead, On glass-epoxy substrate ※ | | | 23 | °C/W |
| Thermal resistance | Rth(j-a) | Junction to ambient, On glass-epoxy substrate ※ | | | 157 | °C/W |

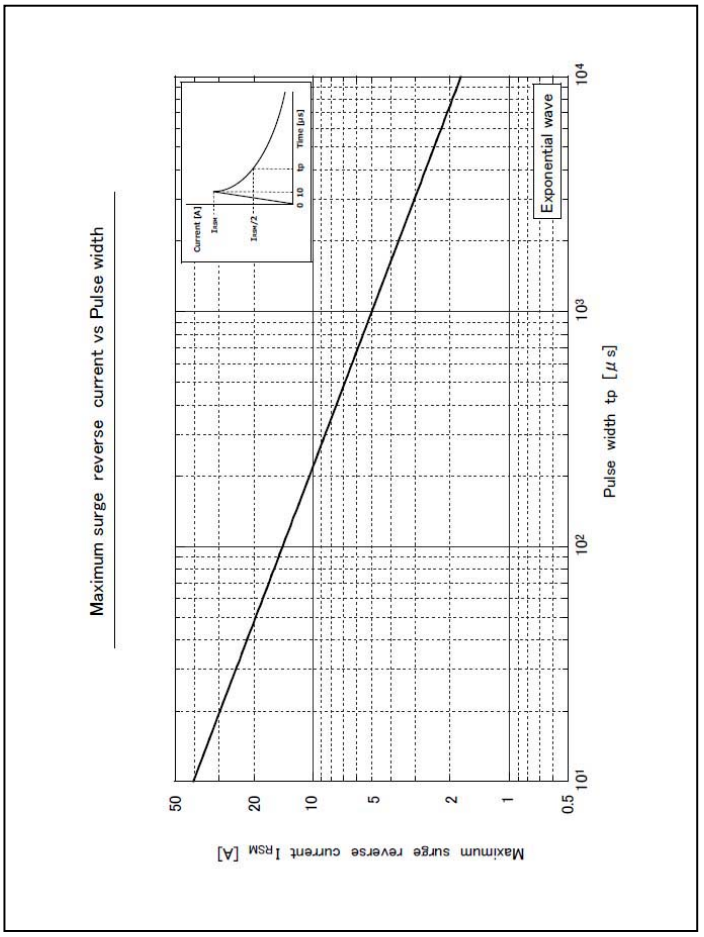
※ ：See the original Specifications

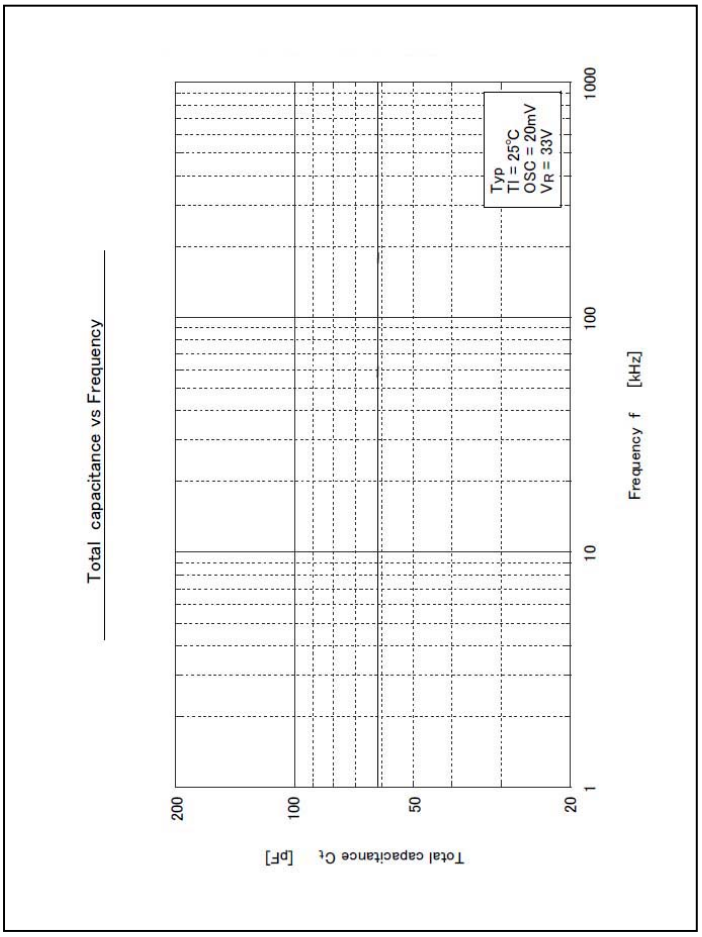
## CHARACTERISTIC DIAGRAMS

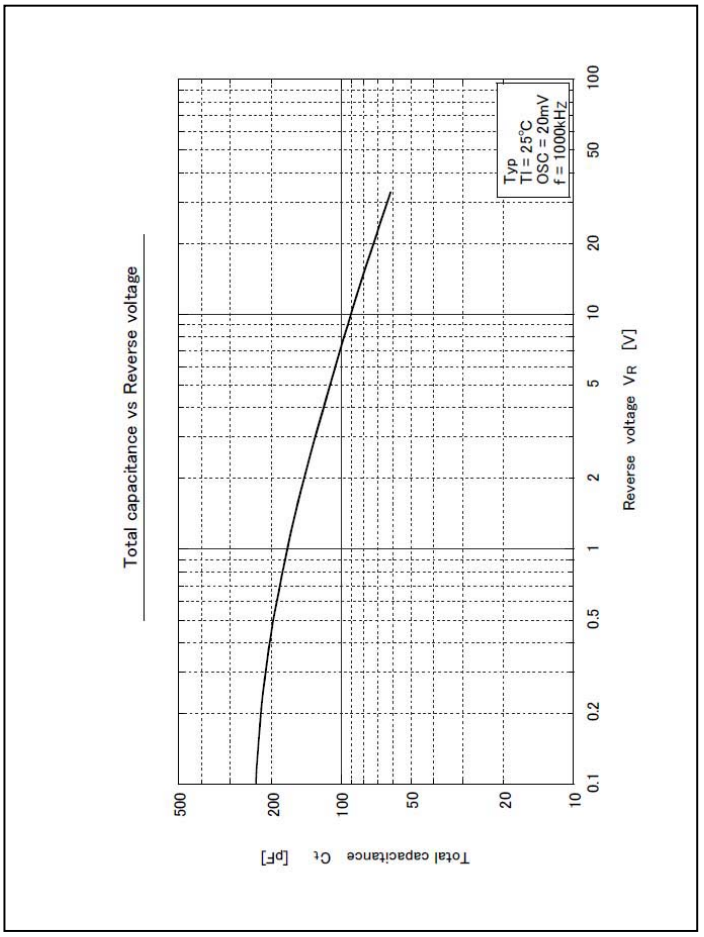


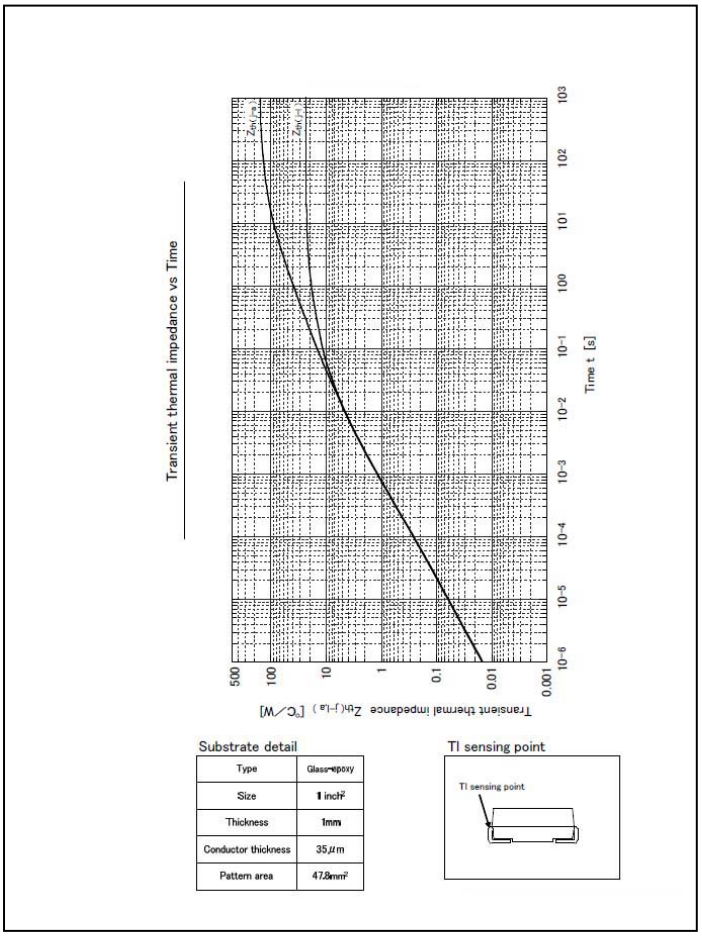




Total capacitance vs Frequency
Typ
Tl = 25°C
OSC = 20mV
VR = 33V
Total capacitance Ct [pF]
200
100
50
20
1
10
100
1000
Frequency f [kHz]


Total capacitance vs Reverse voltage
Typ
Tl = 25°C
OSC = 20mV
f = 1000kHz
Total capacitance Ct [pF]
500
200
100
50
20
10
0.1
0.2
0.5
1
2
5
10
20
50
100
Reverse voltage VR [V]


Transient thermal impedance vs Time
Transient thermal impedance Zth(j-a) [°C/W]
500
100
10
1
0.1
0.01
0.001
10-6
10-5
10-4
10-3
10-2
10-1
100
101
102
103
Time t [s]
Substrate detail
Type Glass-epoxy
Size 1 inch²
Thickness 1mm
Conductor thickness 35μm
Pattern area 47.8mm²
Tl sensing point
Tl sensing point

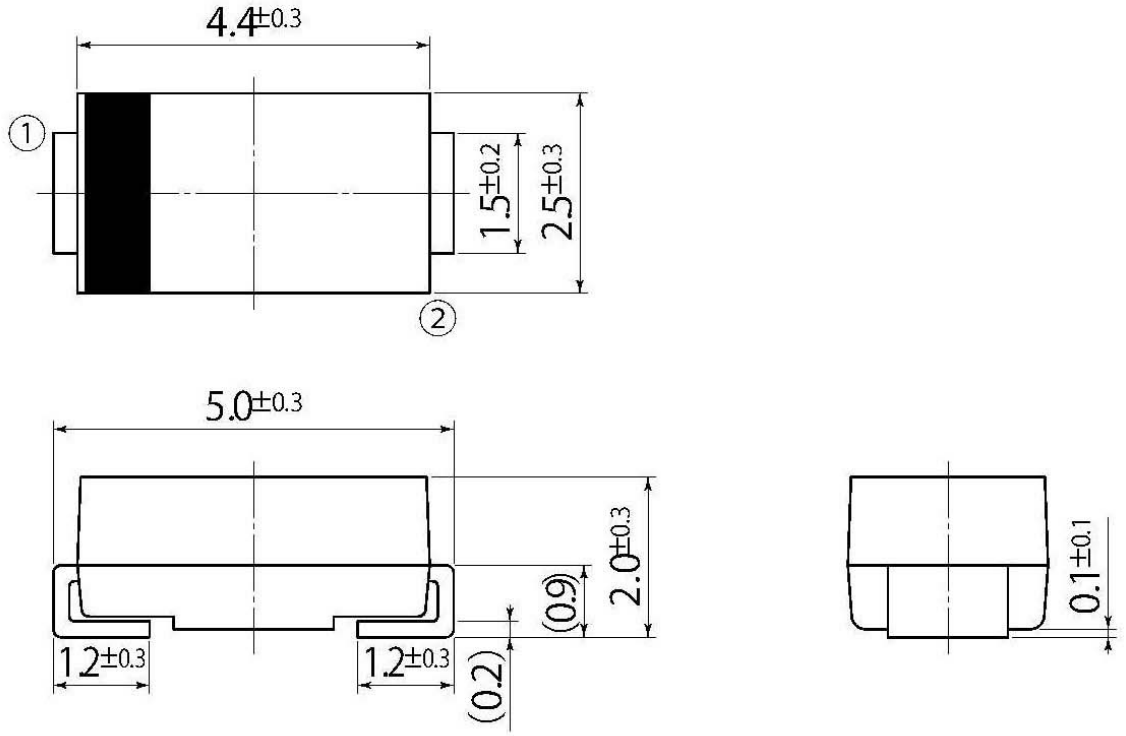
## Outline Dimensions

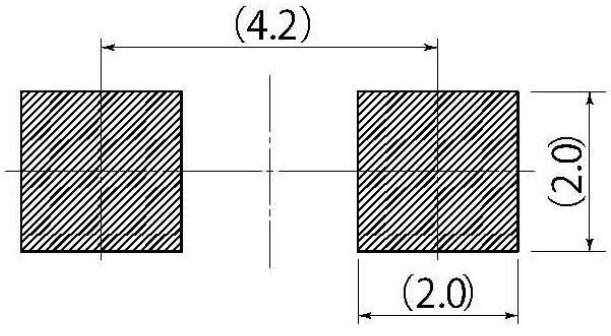
unit:mm

scale: 10/1

B3

| JEDEC Code | DO-214AC |
|---|---|
| JEITA Code | – |
| House Name | 1F, CF |




Referential Soldering Pad

・Optimize soldering pad to the board design and soldering condition.

## Notes

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