

D6FEC4ST

Schottky Barrier Diodes

40V, 6A

Feature

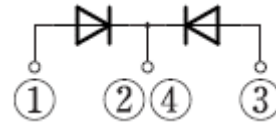
- SMD
- $T_j=175^{\circ}\text{C}$
- Ultra low I_R
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FE
Package (JEDEC Code): TO-252AB similar
Package (JEITA Code): SC-63



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : $T_c=25^{\circ}\text{C}$)

| Item | Symbol | Conditions | Ratings | Unit |
|---------------------------------|-------------|--|------------|--------------------|
| Storage temperature | T_{stg} | | -55 to 175 | $^{\circ}\text{C}$ |
| Junction temperature | T_j | | -55 to 175 | $^{\circ}\text{C}$ |
| Repetitive peak reverse voltage | V_{RRM} | | 40 | V |
| Average forward current | $I_{F(AV)}$ | 50Hz sine wave, Resistance load, Rating for each diode $I_{F(AV)}/2$, $T_c=158^{\circ}\text{C}$ * | 6 | A |
| Average forward current | $I_{F(AV)}$ | 50Hz sine wave, Resistance load, Rating for each diode $I_{F(AV)}/2$, $T_a=25^{\circ}\text{C}$ * | 4 | A |
| Surge forward current | I_{FSM} | 50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$ | 90 | A |
| Surge forward current | I_{FSM1} | $t_p=1\text{ms}$, Sine wave, Non-repetitive, Peak value, $T_j=25^{\circ}\text{C}$ | 155 | A |

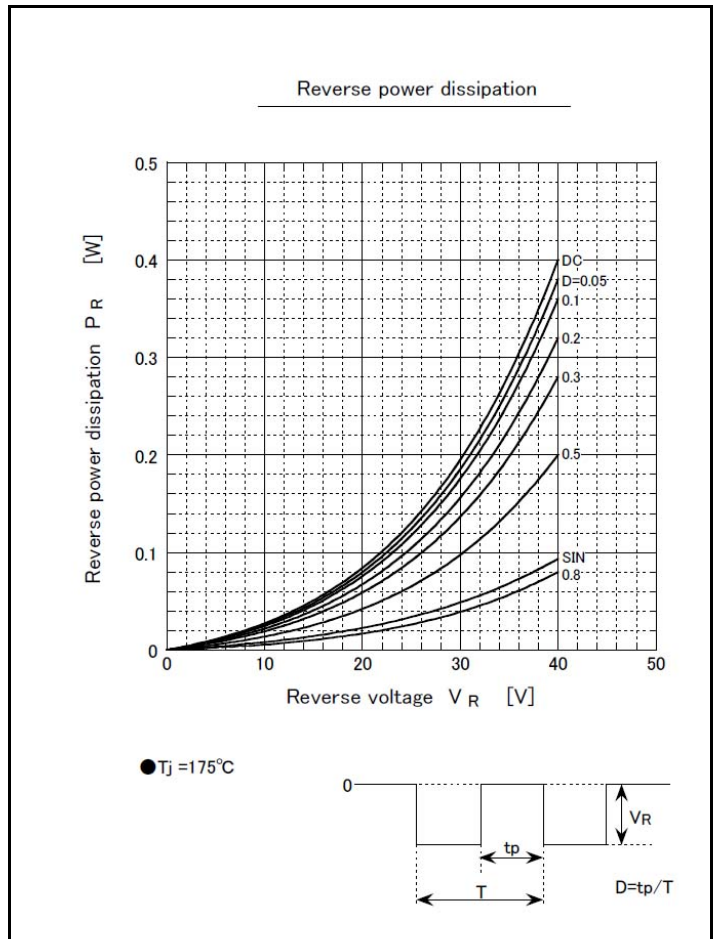
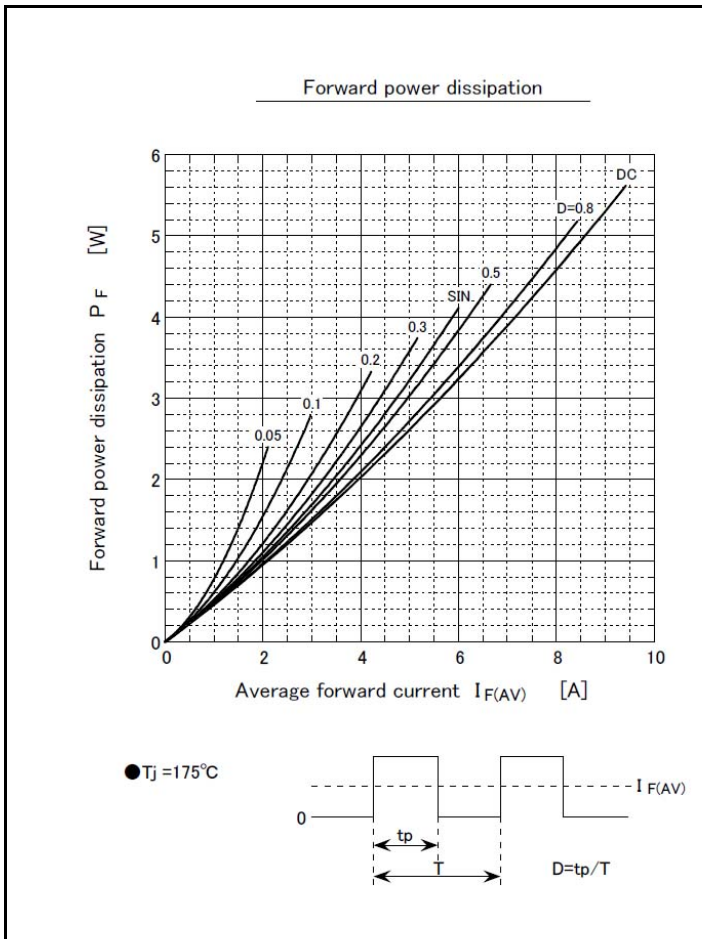
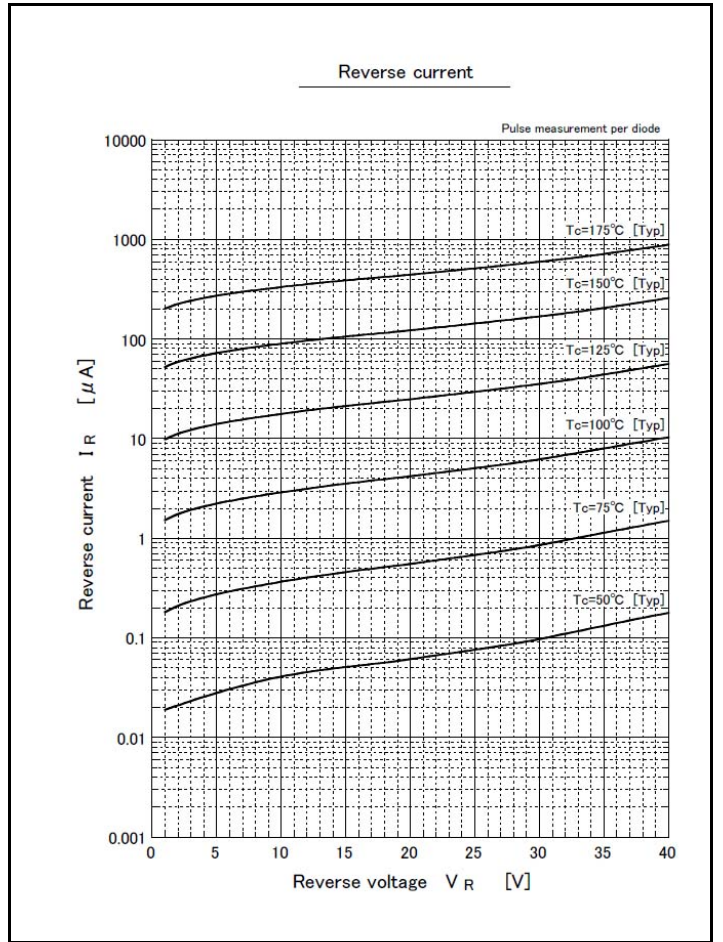
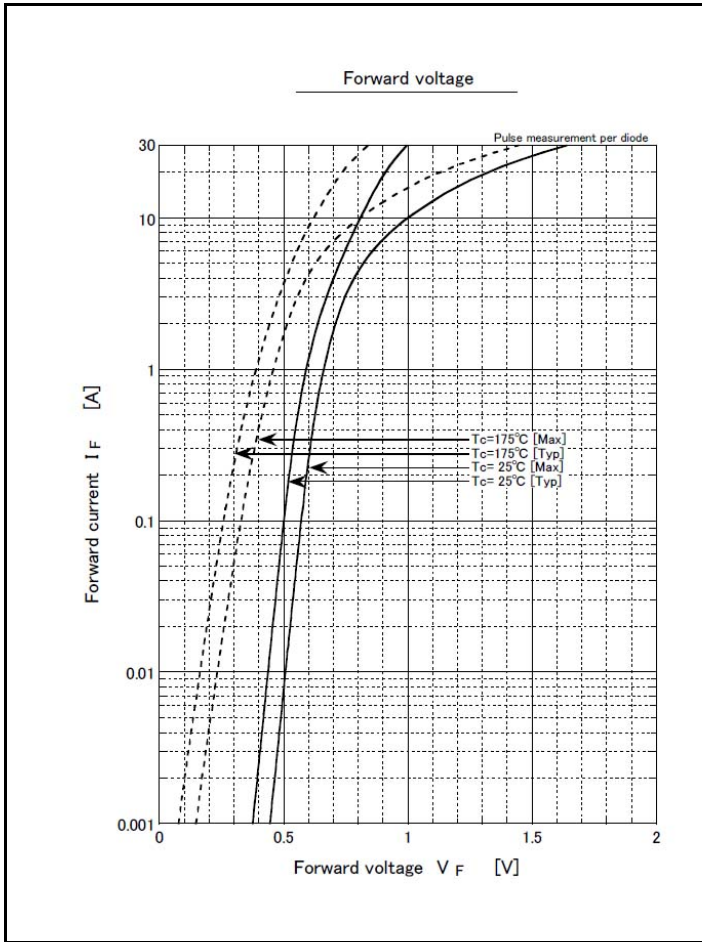
* : See the original Specifications

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

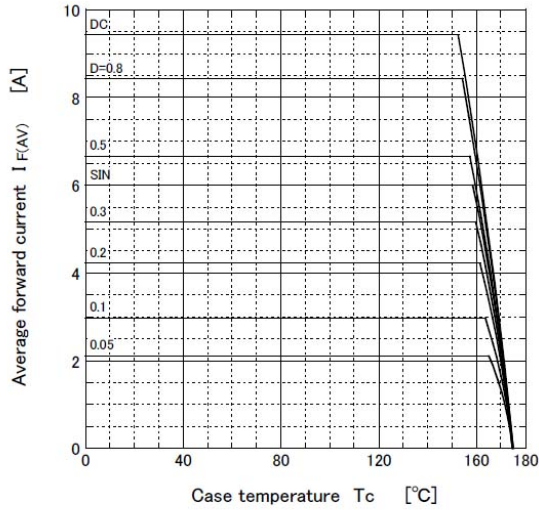
| Item | Symbol | Conditions | Ratings | | | Unit |
|--------------------|----------------------|---|---------|-----|-------|------|
| | | | MIN | TYP | MAX | |
| Forward voltage | V _F | I _F =3A, Pulse measurement, per diode | | | 0.74 | V |
| Reverse current | I _R | V _R =40V, Pulse measurement, per diode | | | 0.008 | mA |
| Total capacitance | C _t | f=1MHz, V _R =10V, per diode | | 93 | | pF |
| Thermal resistance | R _{th(j-c)} | Junction to case, With heatsink ※ | | | 4 | °C/W |
| Thermal resistance | R _{th(j-a)} | Junction to ambient ※ | | | 60 | °C/W |

※ :See the original Specifications

CHARACTERISTIC DIAGRAMS



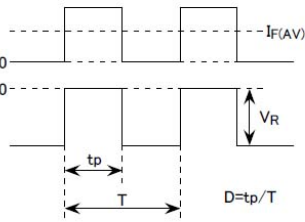
Derating curve



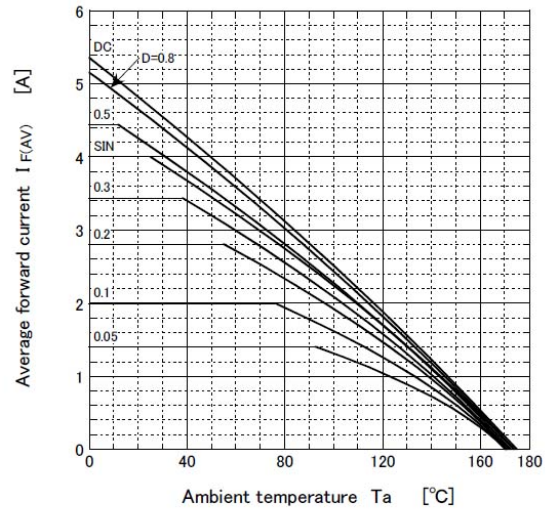
● $V_R = 20V$
R-load
With heatsink

● Substrate detail

| | |
|---------------------|--------------------|
| Type | Alumina |
| Size | 1inch ² |
| Thickness | 0.64mm |
| Conductor thickness | 20μm |
| Pattern area | 65mm ² |



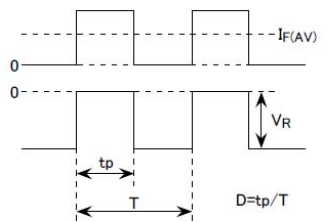
Derating curve



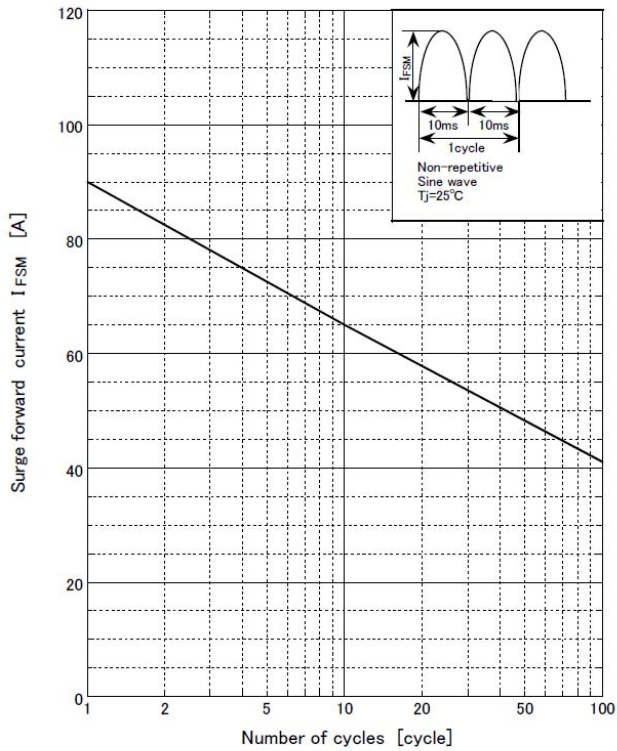
● $V_R = 20V$
R-load
Free in air

● Substrate detail

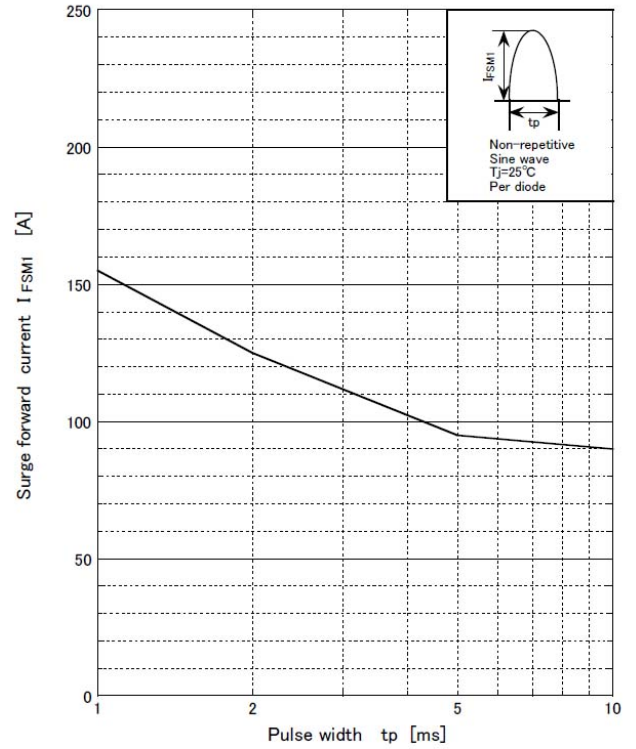
| | |
|---------------------|---------------------|
| Type | Glass-epoxy |
| Size | 24mm × 39mm |
| Thickness | 1.9mm |
| Conductor thickness | 35μm |
| Pattern area | 56.5mm ² |

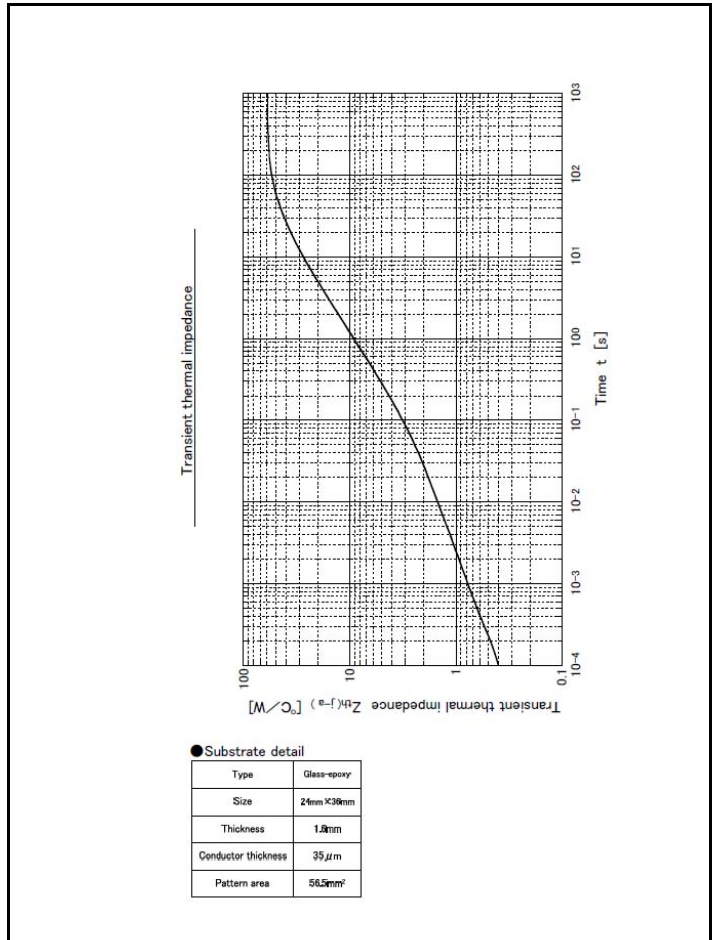
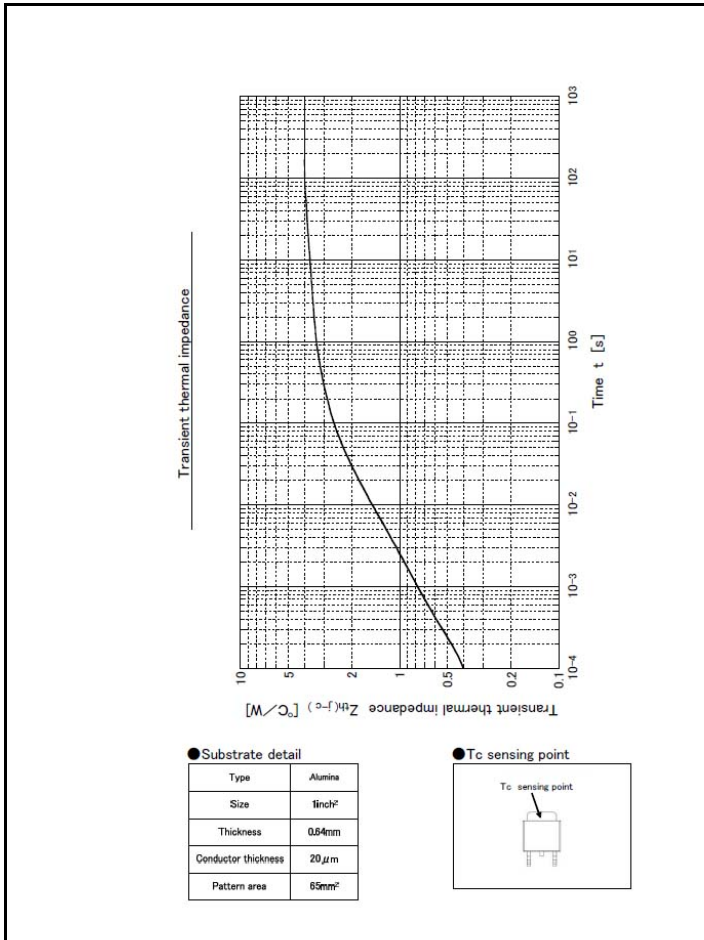
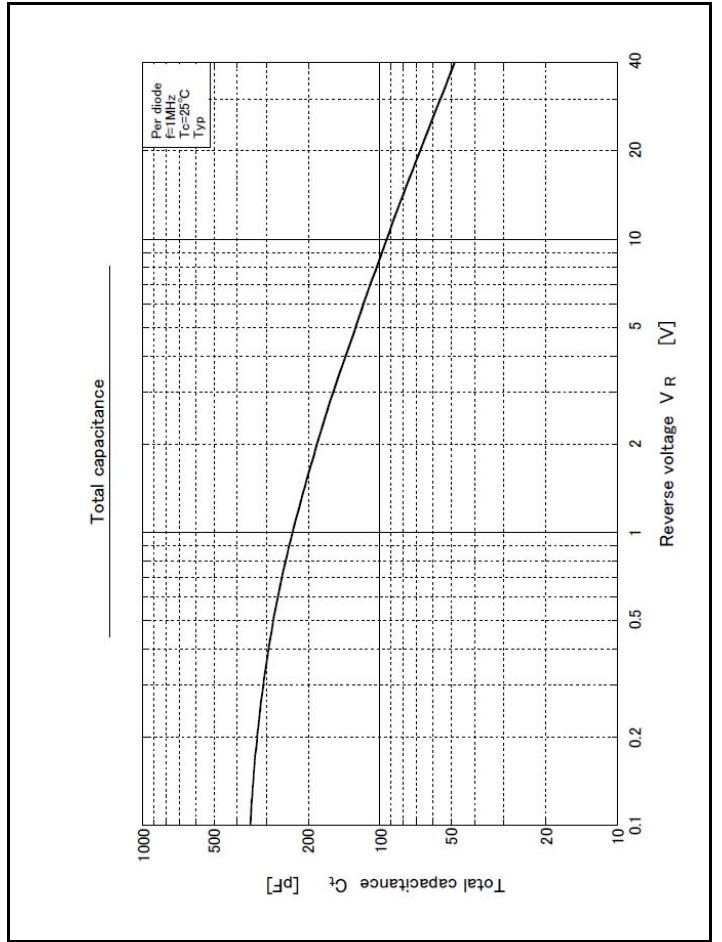
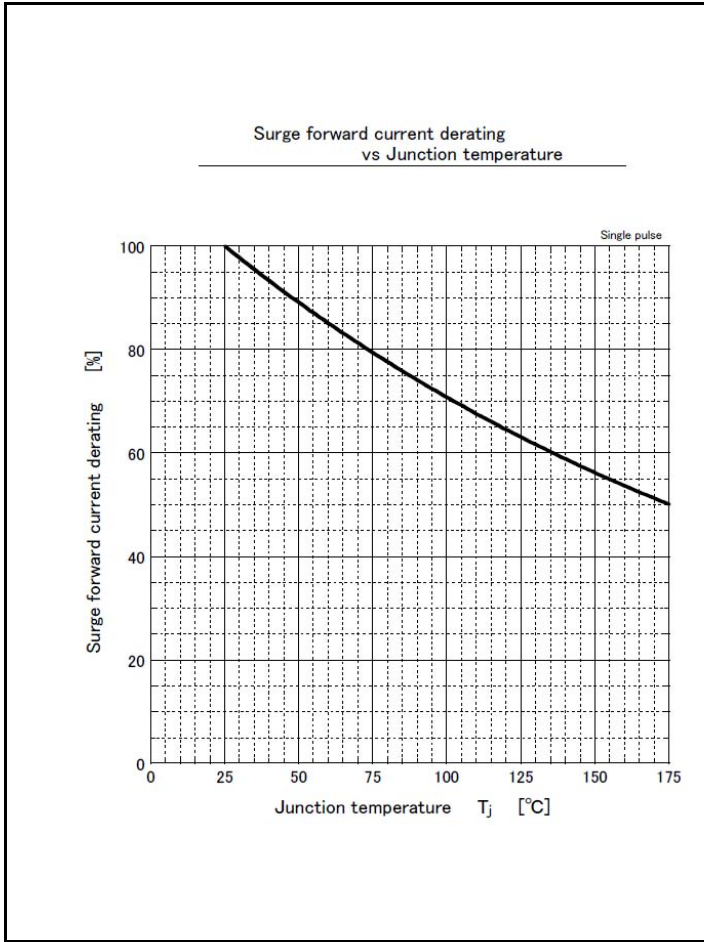


Surge forward current capability



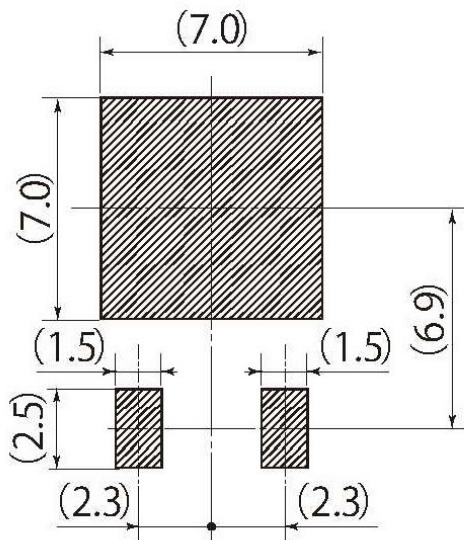
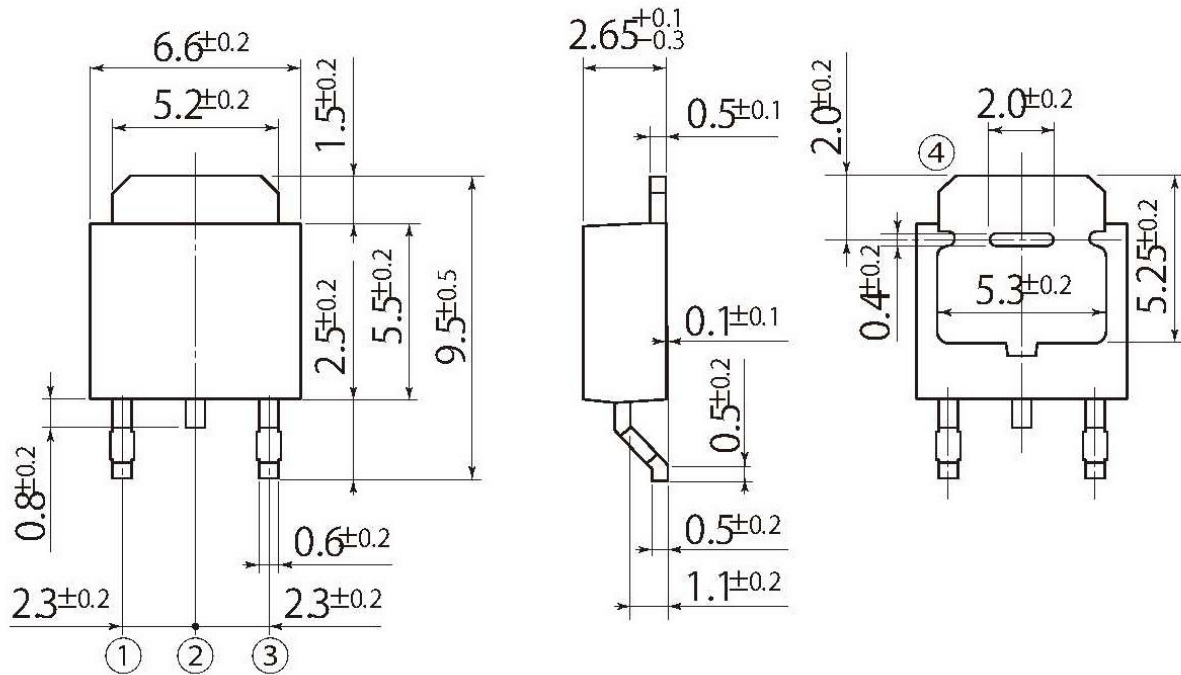
Surge forward current capability





G3

| | |
|------------|------------------|
| JEDEC Code | TO-252AB similar |
| JEITA Code | SC-63 |
| House Name | FE |



Referential Soldering Pad

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