

VR61F1

Varistors

0.37A, 0.28A

Feature

- Bi-directional surge can be absorbed
- Low junction capacitance
- 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 150	°C
Junction temperature	Tj		-55 to 150	°C
R.M.S. forward current	I _{F(R.M.S.)}	50Hz, Sine wave, Resistance load, On alumina substrate, Root mean square value, Ta=25°C *	0.37	A
R.M.S. forward current	I _{F(R.M.S.)}	50Hz, Sine wave, Resistance load, On glass-epoxy substrate, Root mean square value, Ta=25°C *	0.28	A
Surge forward current	I _{FSM(R.M.S.)}	50Hz, sine wave, Non-repetitive, 1cycle, Root mean squarevalue, Tj=25°C	7.5	A
Surge forward current	I _{FSM}	10/200μs, Non-repetitive, Peak value, Application in single direction, Exponential wave *	60	A
Surge forward current	I _{FSM}	10/1000μs, Non-repetitive, Peak value, Application in single direction, Exponential wave *	30	A

* :See the original Specifications

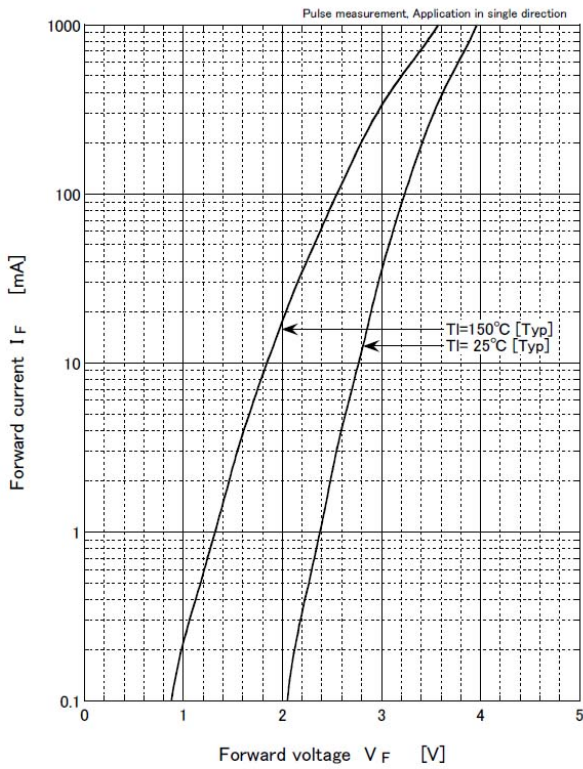
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	$I_F=1\text{mA}$, Pulse measurement, Application in single direction	2.05		2.55	V
Forward voltage	V_F	$I_F=10\text{mA}$, Pulse measurement, Application in single direction	2.5		3	V
Forward voltage	V_F	$I_F=70\text{mA}$, Pulse measurement, Application in single direction	2.85		3.35	V
Total capacitance	C_t	$f=100\text{kHz}$, $V_D=1\text{V}$, $\text{OSC(R.M.S.)}=50\text{mVrms}$, Application in single direction		15		pF
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, Application in single direction, on alumina substrate ※			108	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, Application in single direction, on glass-epoxy substrate ※			157	°C/W

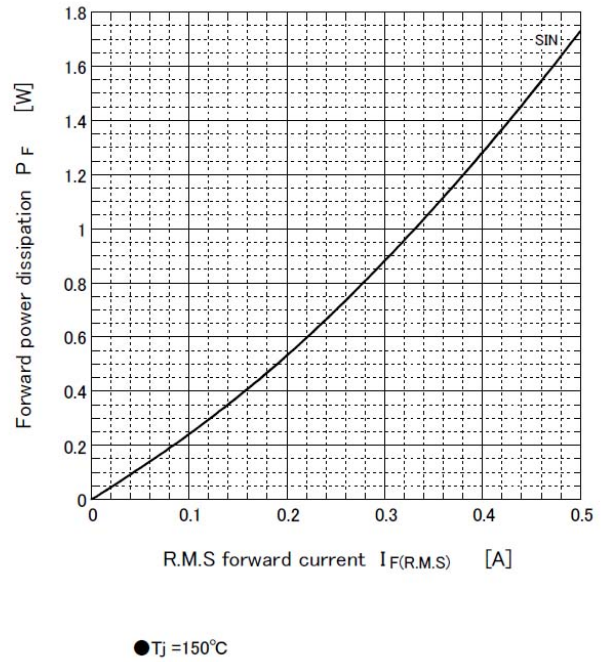
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

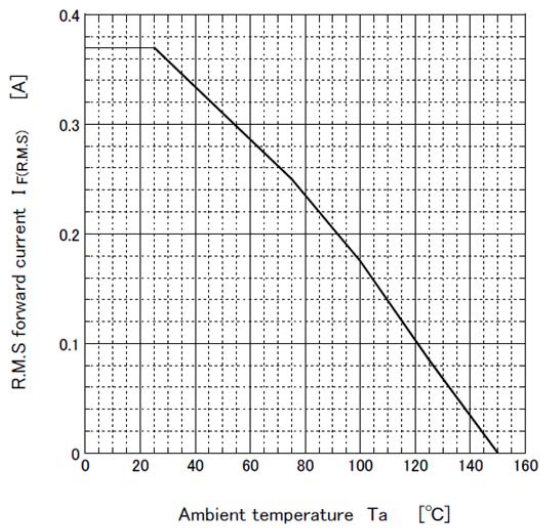
Forward voltage



Forward power dissipation



Derating curve

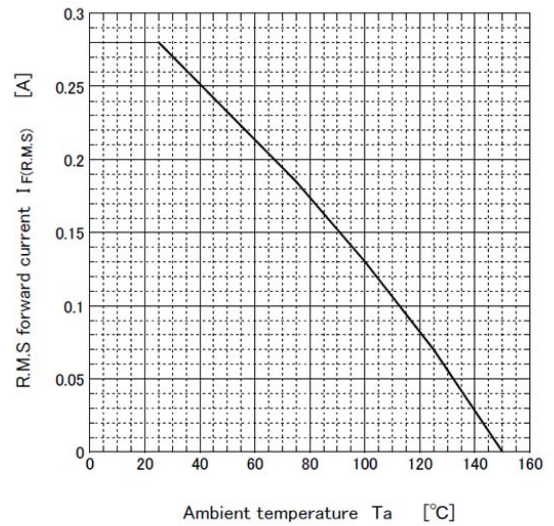


- Sine wave
- R-load
- Free in air

● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	47.8mm ²

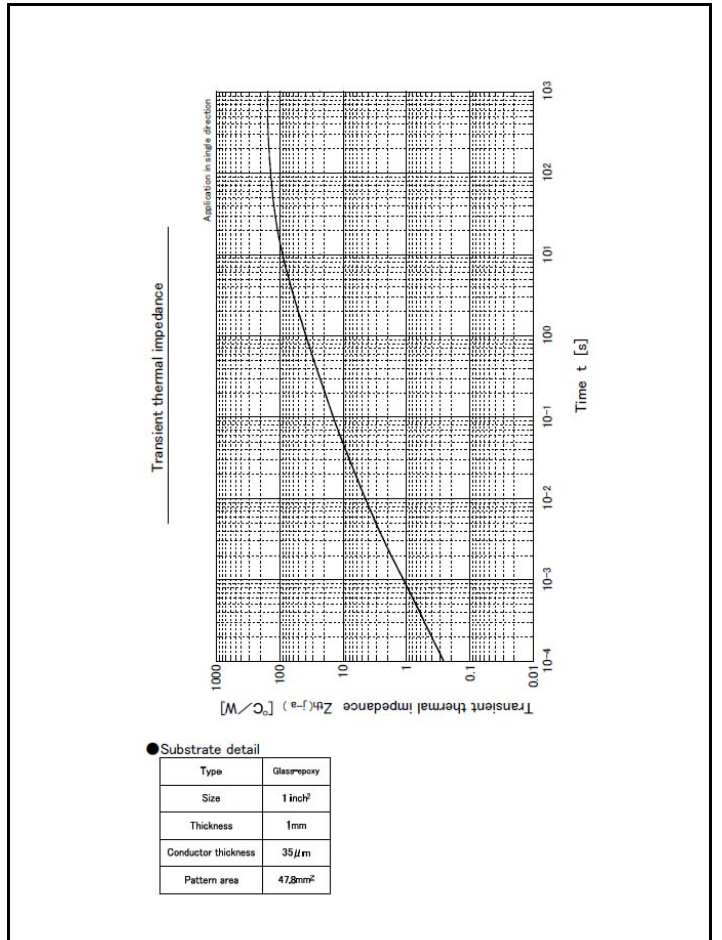
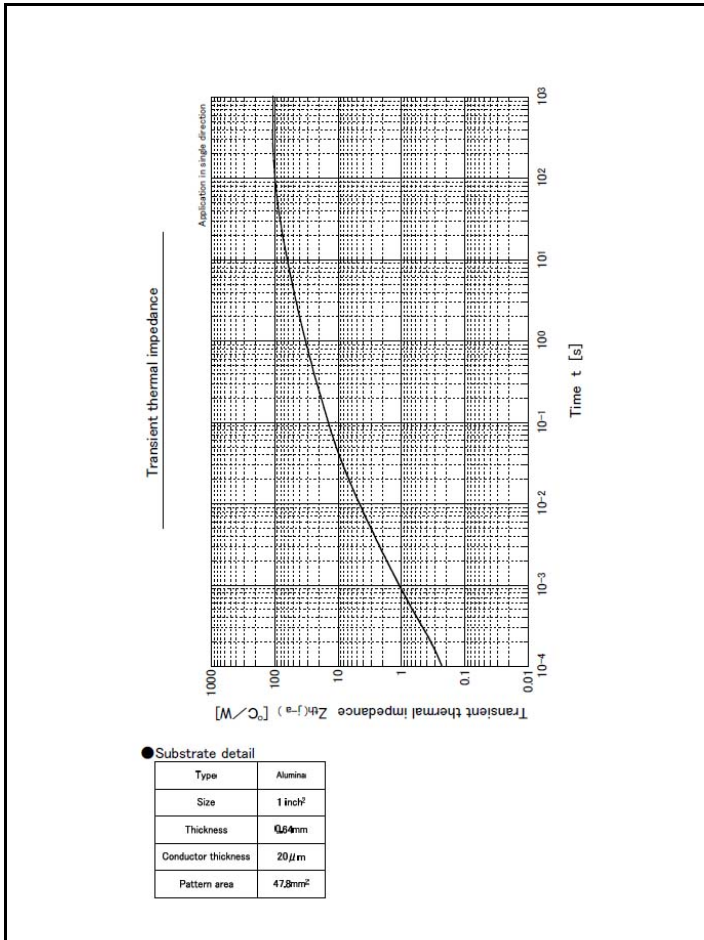
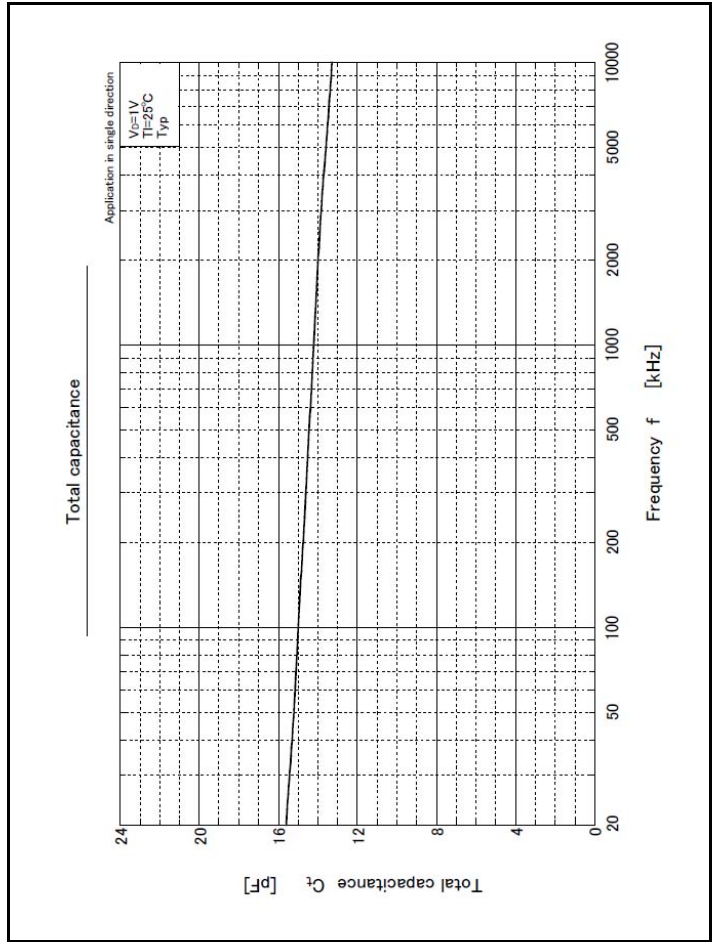
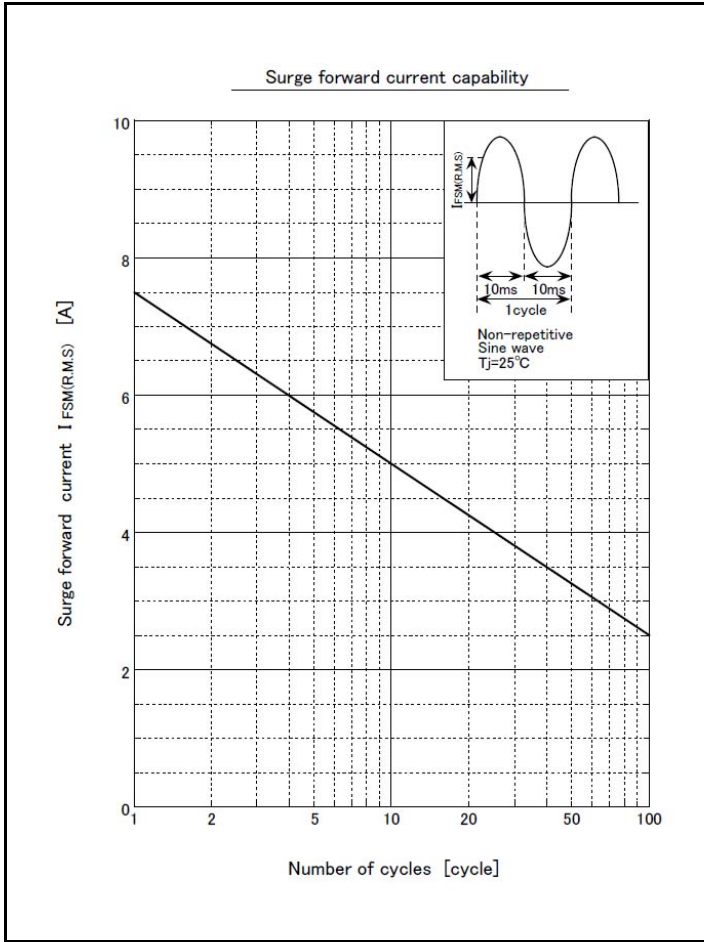
Derating curve



- Sine wave
- R-load
- Free in air

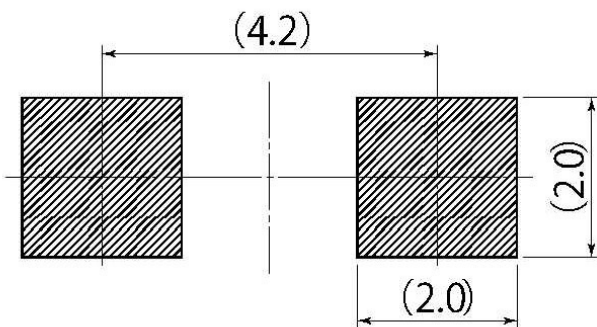
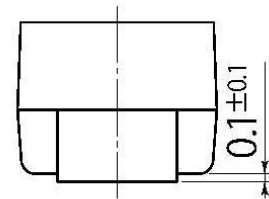
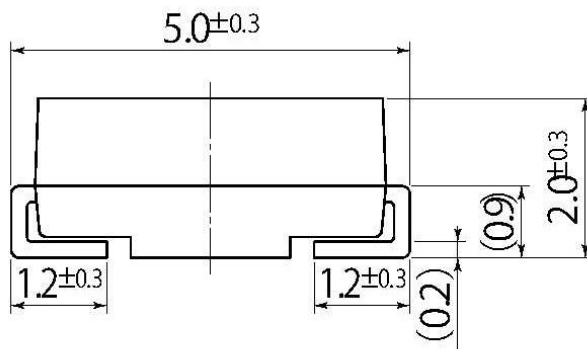
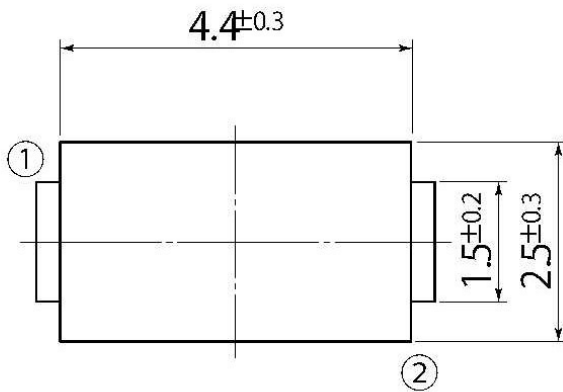
● Substrate detail

Type	Glass/epoxy
Size	1 inch ²
Thickness	1mm
Conductor thickness	35 μm
Pattern area	47.8mm ²



B4

JEDEC Code	DO-214AC
JEITA Code	—
House Name	1F



Referential Soldering Pad

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

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