ShinDengen

ST20-27F2

TVS

54A, 2000W

Feature

- Peak pulse power:2000W
- SMD
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): 2F

Equivalent circuit

Absolute Maximum Ratings (unless otherwise specified : Tl=25℃)

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	Tstg		-55 to 175	℃
Operating junction temperature	Tj		-55 to 175	℃
Maximum surge reverse current	I_{RSM}	10/1000μs, Non-repetitive, Exponential wave ※	54	A
Maximum surge reverse power	P_{RSM}	10/1000μs, Non-repetitive ※	2000	W
Continuous (direct) reverse voltage	$V_{R(DC)}$		23	V

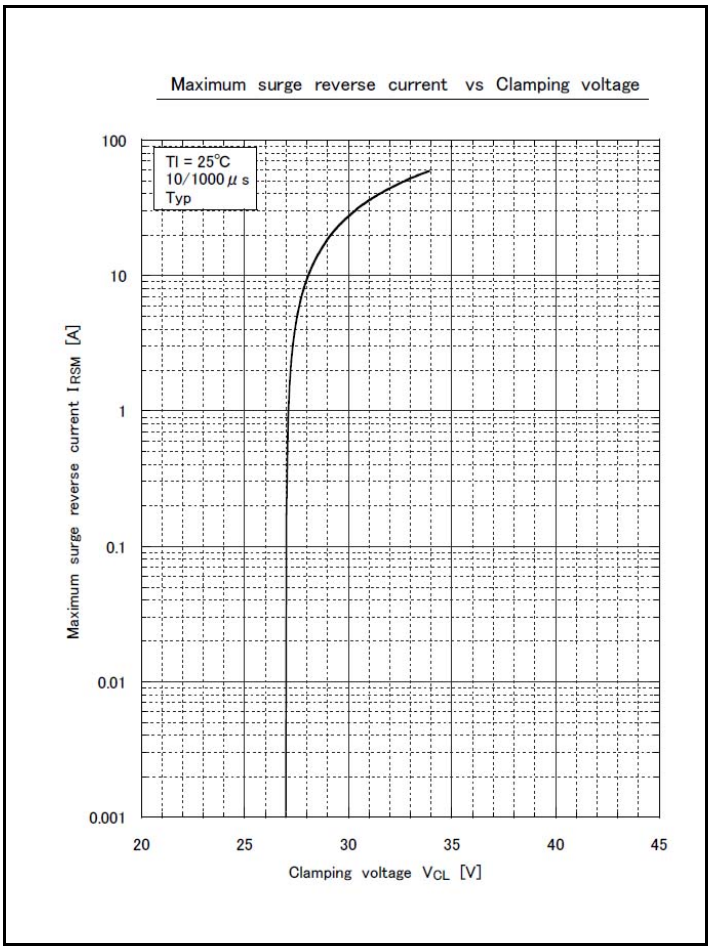
※ ：See the original Specifications

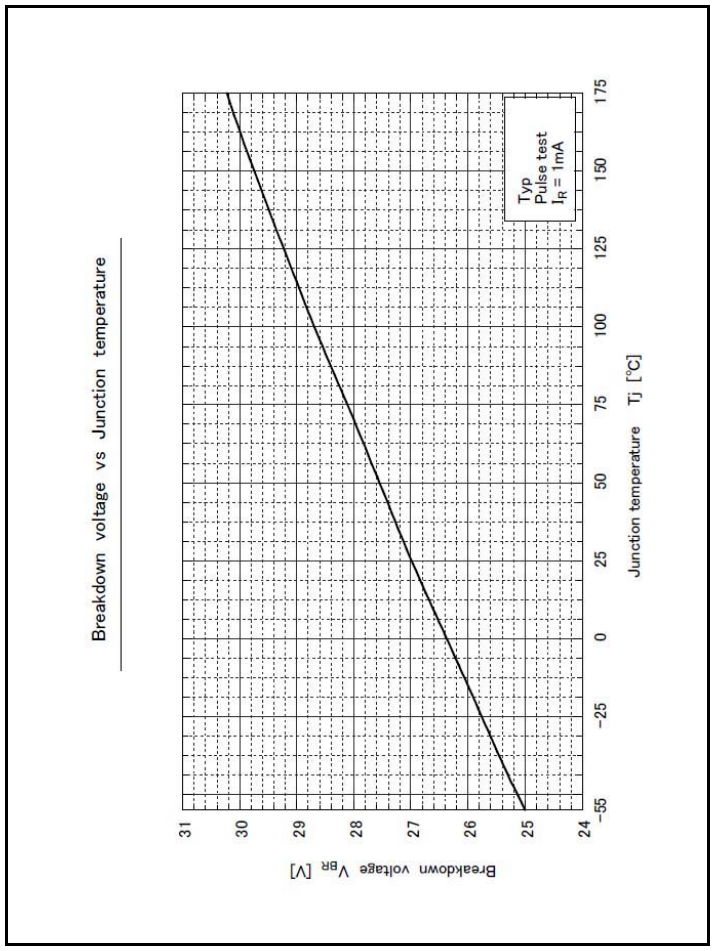
Electrical Characteristics (unless otherwise specified : Tl=25℃)

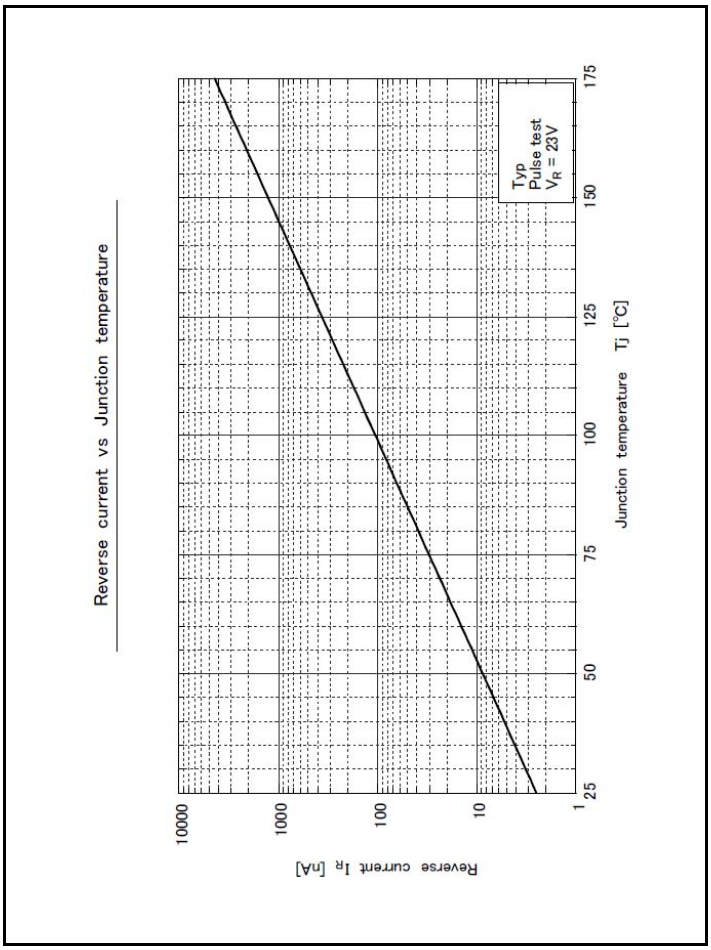
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Breakdown voltage	V_{BR}	IR=1mA, Pulse measurement	24.3	27	29.7	V
Reverse current	I_R	VR=23V, Pulse measurement			5	μA
Thermal resistance	Rth(j-l)	Junction to lead, On glass-epoxy substrate ※			23	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			115	℃/W
Restriction voltage	V_{CL}	10/1000μs, IRSM=54A ※			37	V
Temperature coefficient	rz				0.12	%/℃

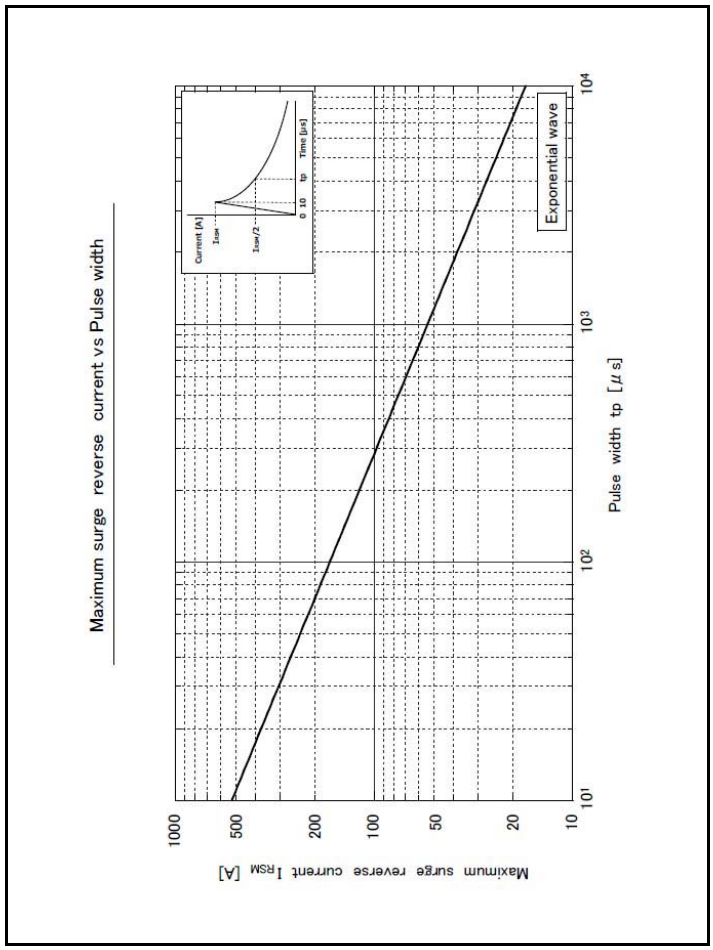
※ ：See the original Specifications

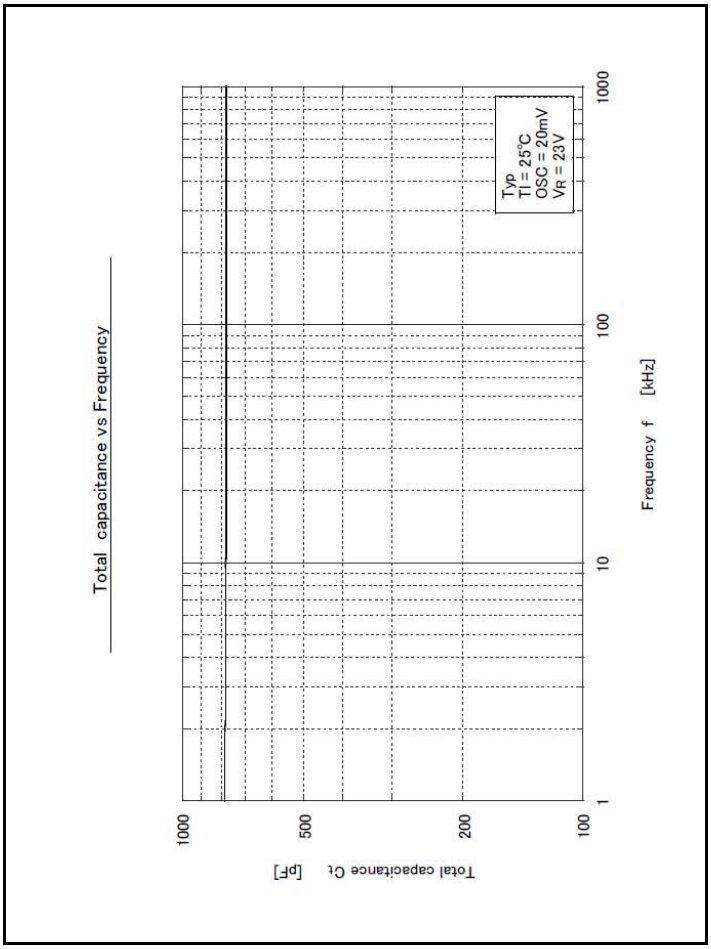
CHARACTERISTIC DIAGRAMS

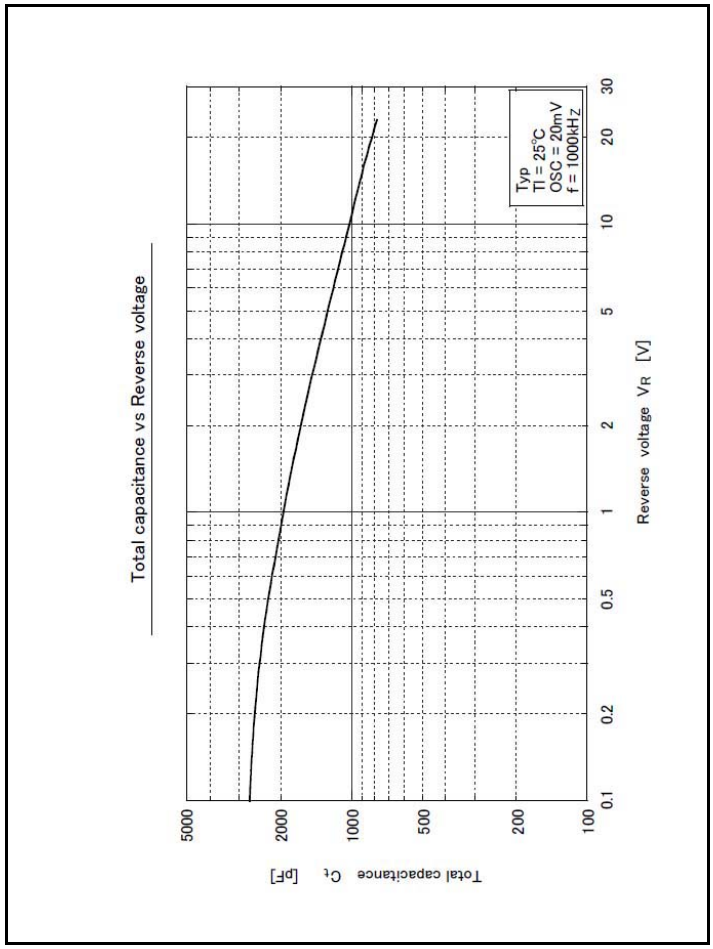


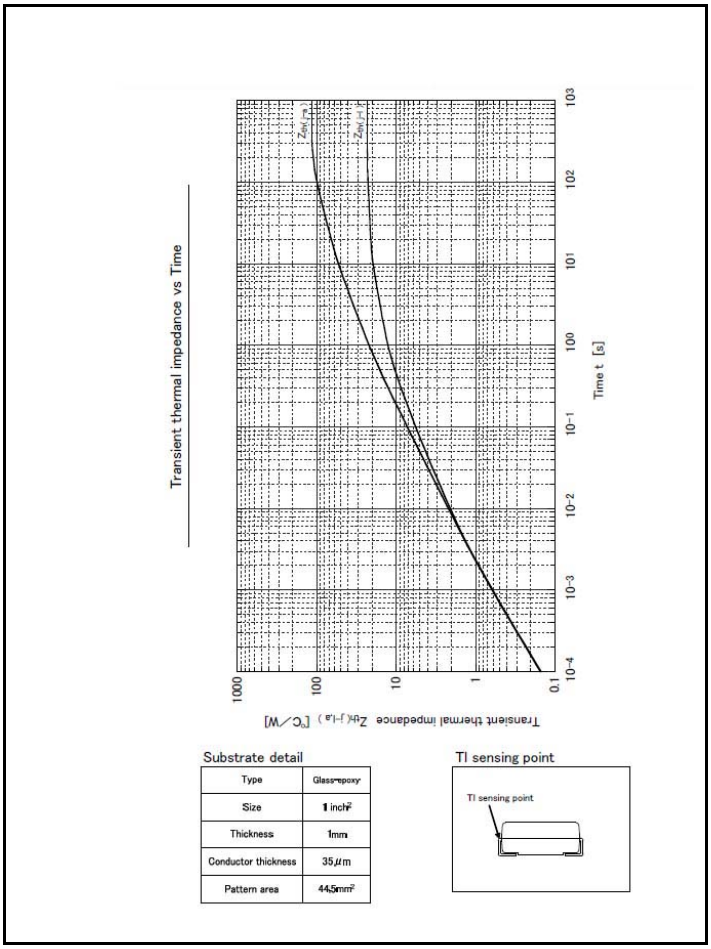







Total capacitance vs Frequency
Typ
Tl = 25°C
OSC = 20mV
VR = 23V
Total capacitance Ct [pF]
1000
500
200
100
Frequency f [kHz]
1000
100
10
1


Total capacitance vs Reverse voltage
Typ
Tl = 25°C
OSC = 20mV
f = 1000kHz
Total capacitance Ct [pF]
5000
2000
1000
500
200
100
Reverse voltage VR [V]
30
20
10
5
2
1
0.5
0.2
0.1


Transient thermal impedance vs Time
Transient thermal impedance ZR(j-la) [°C/W]
1000
100
10
1
0.1
Time t [s]
10³
10²
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
Substrate detail
Type
Glass-epoxy
Size
1 inch²
Thickness
1mm
Conductor thickness
35μm
Pattern area
44.5mm²
Tl sensing point
Tl sensing point

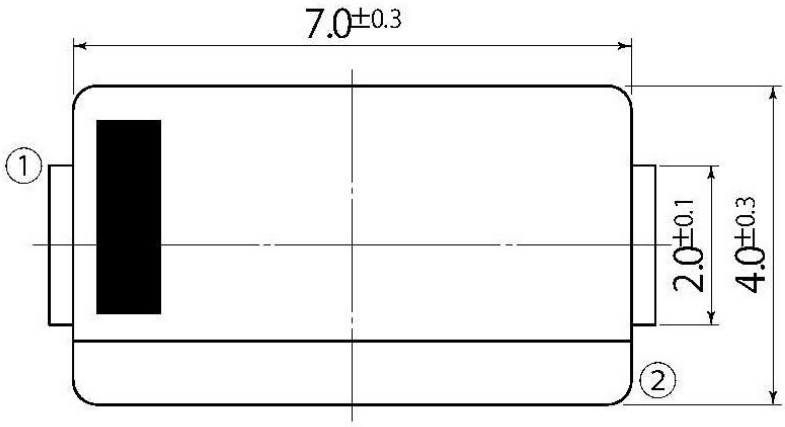
Outline Dimensions

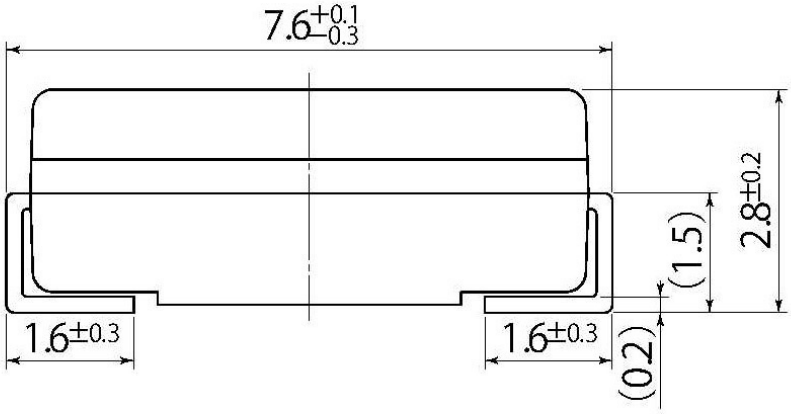
unit:mm

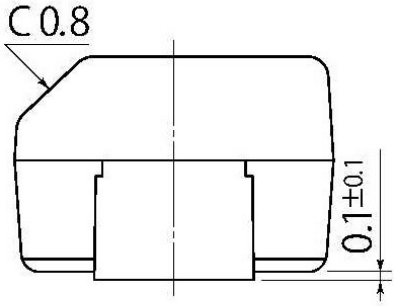
scale: 10/1

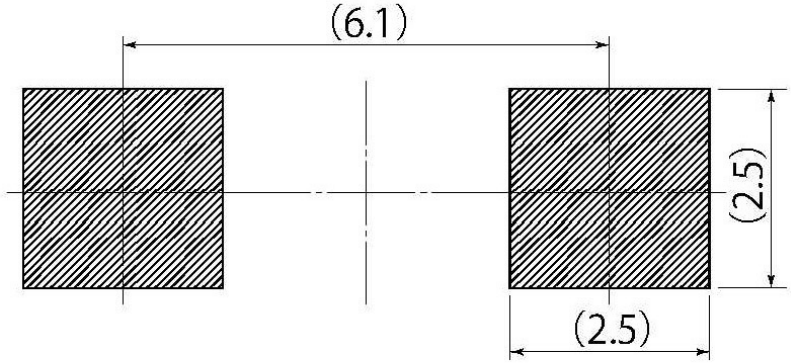
B10

JEDEC Code	–
JEITA Code	–
House Name	2F









Referential Soldering Pad

・Optimize soldering pad to the board design and soldering condi tion.

Notes

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