

ST02D-140F2

Power Clampers

200W, 120V

Feature

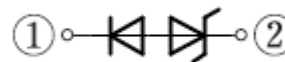
- TVS with FRD
- SMD Package
- Application for snubber circuit
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): 2F



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	Tstg		-40 to 150	°C
Operating junction temperature	Tj		150	°C
Maximum surge reverse power(ZD)	P _{RSM(ZD)}	10/1000μs, Non-repetitive *	200	W
Maximum surge reverse current(ZD)	I _{RSM(ZD)}	10/1000μs, Non-repetitive *	1	A
Continuous (direct) reverse voltage(ZD)	V _{RM(DC)(ZD)}		120	V
Repetitive peak reverse voltage(Di)	V _{RRM(Di)}		600	V

* :See the original Specifications

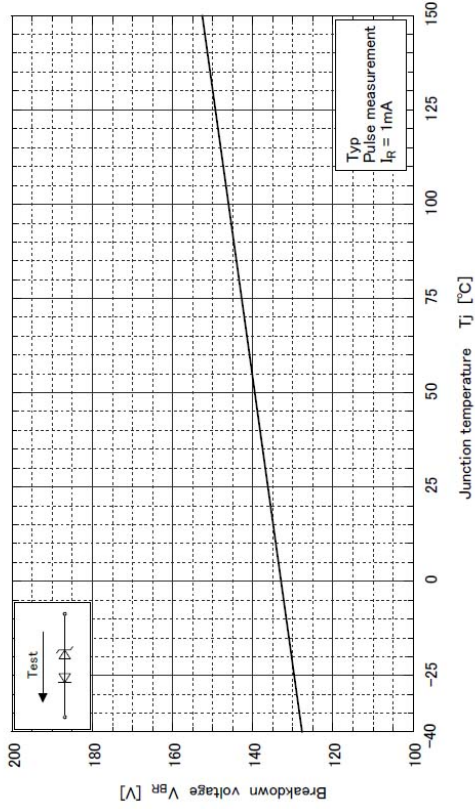
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Breakdown voltage(ZD)	$V_{BR}(ZD)$	$I_R=1mA$	130		160	V
Clamping Voltage(ZD)	$V_{CL}(ZD)$	$I_{PP}=1.0A$			200	V
Reverse current(ZD)	$I_R(ZD)$	$V_R=120V$			5	μA
Reverse current(Di)	$I_R(Di)$	$V_R=600V$			5	μA
Reverse recovery time(Di)	$t_{rr}(Di)$	$I_F/I_R=0.1A/0.3A$			500	ns
Thermal resistance	$R_{th}(j-l)$	Junction to lead			24	$^{\circ}C/W$
Thermal resistance	$R_{th}(j-a)$	Junction to ambient, On glass-epoxy substrate			120	$^{\circ}C/W$
Thermal resistance	$R_{th}(j-a)$	Junction to ambient, On alumina substrate			90	$^{\circ}C/W$

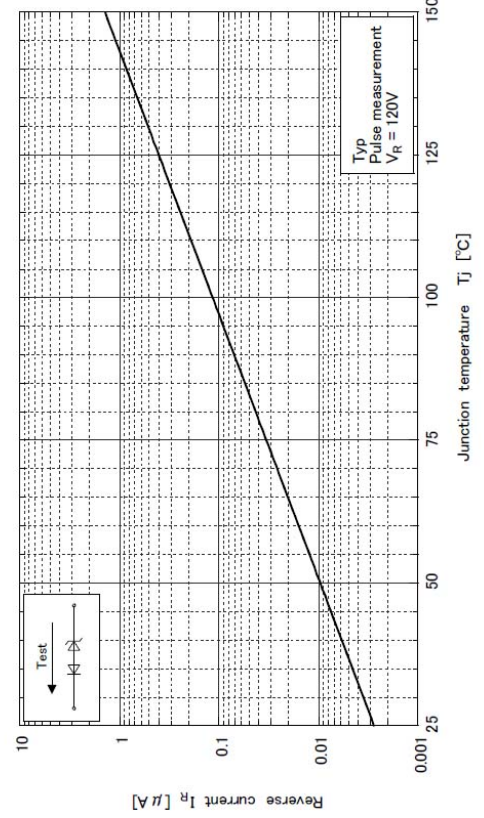
* :See the original Specifications

CHARACTERISTIC DIAGRAMS

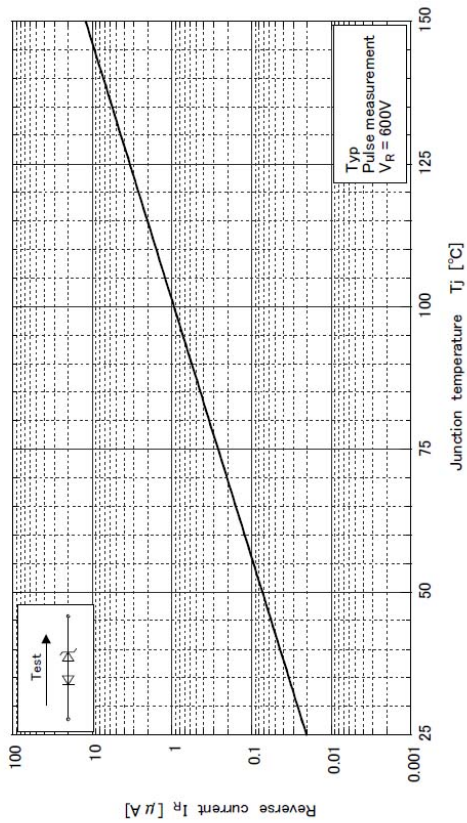
Breakdown voltage vs Junction temperature



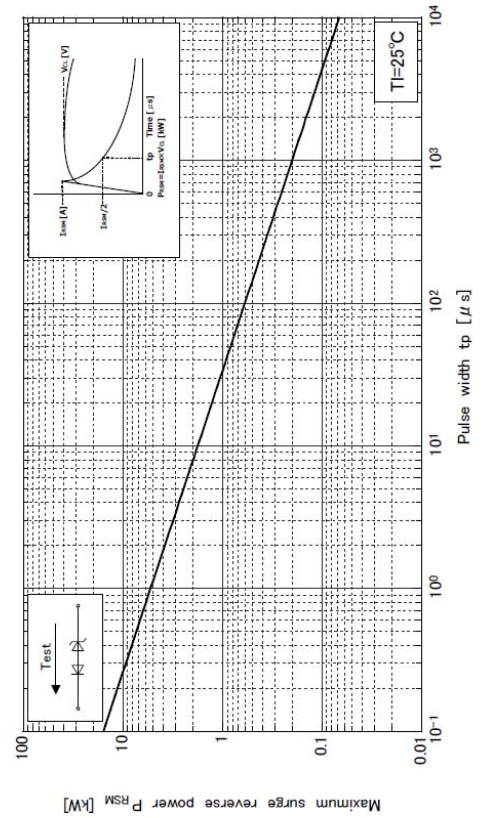
Reverse current vs Junction temperature

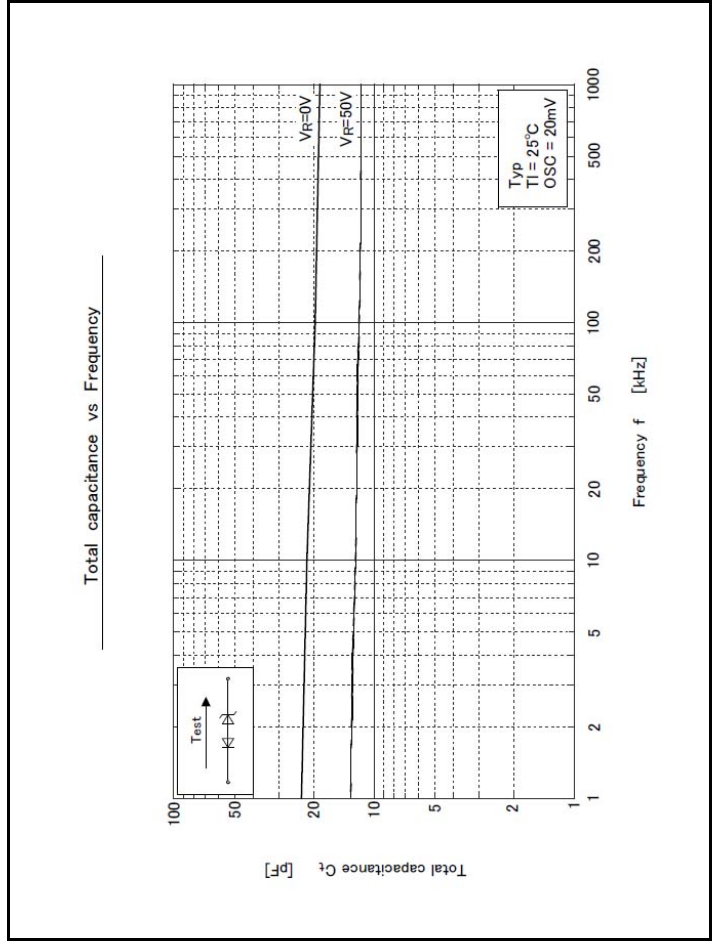
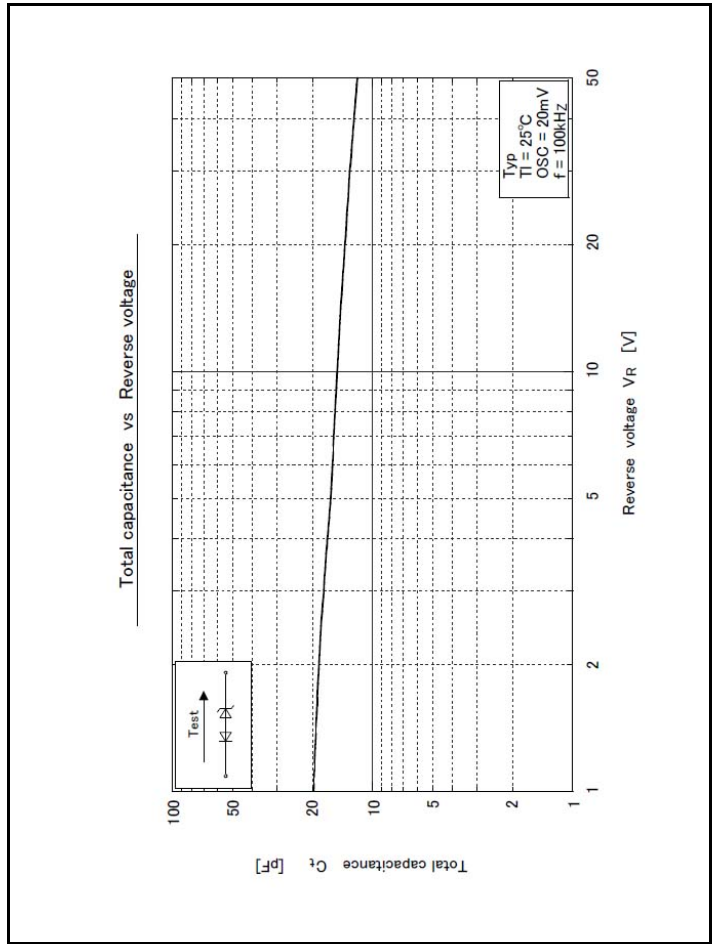
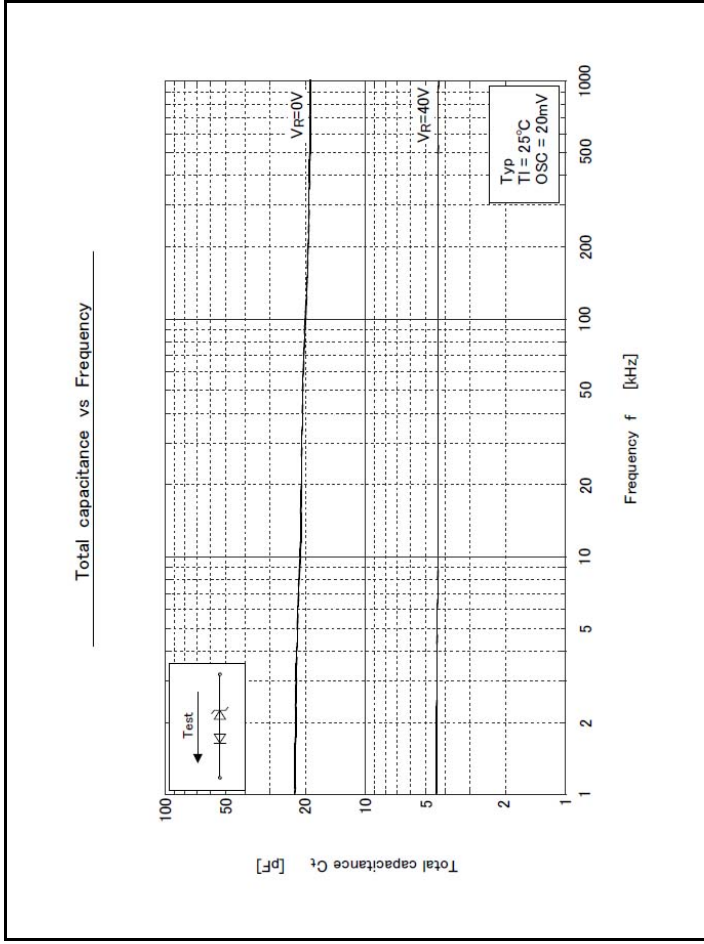
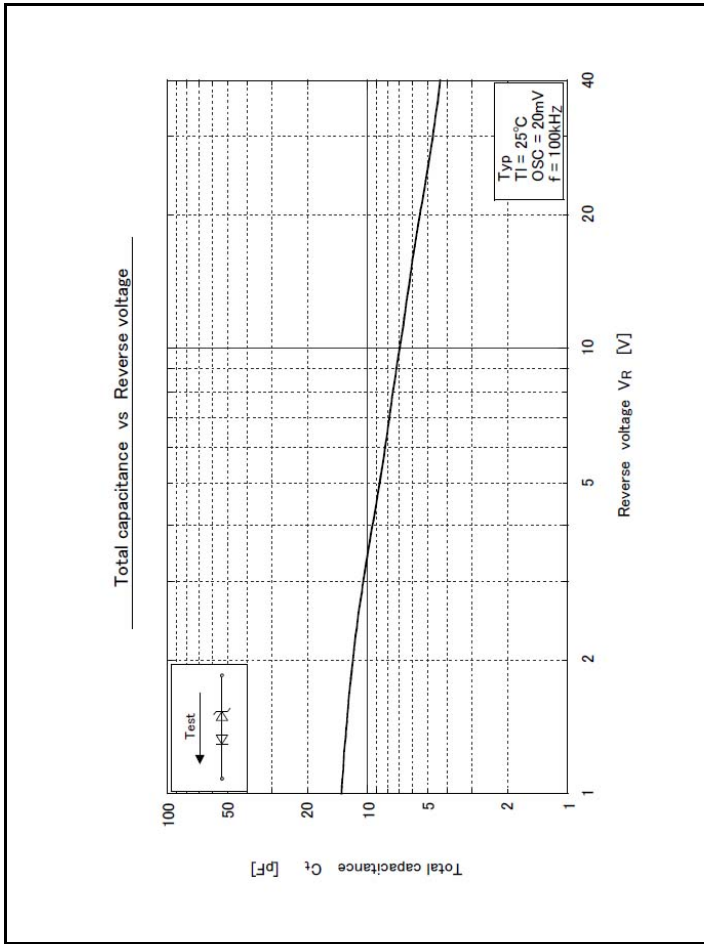


Reverse current vs Junction temperature

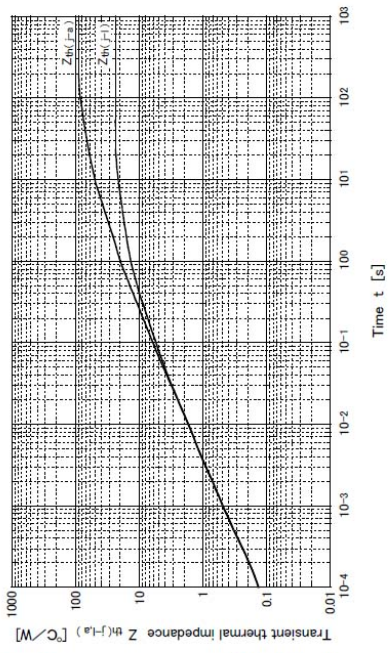


Maximum surge reverse power vs Pulse width





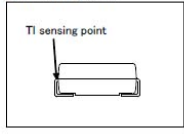
Transient thermal impedance vs Time



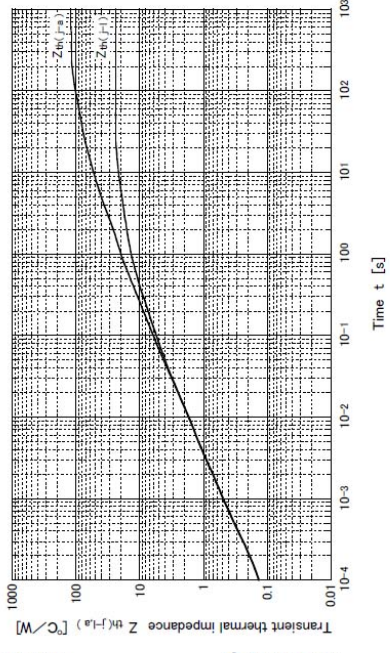
● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	3852mm ²

● TI sensing point



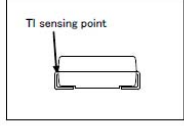
Transient thermal impedance vs Time



● Substrate detail

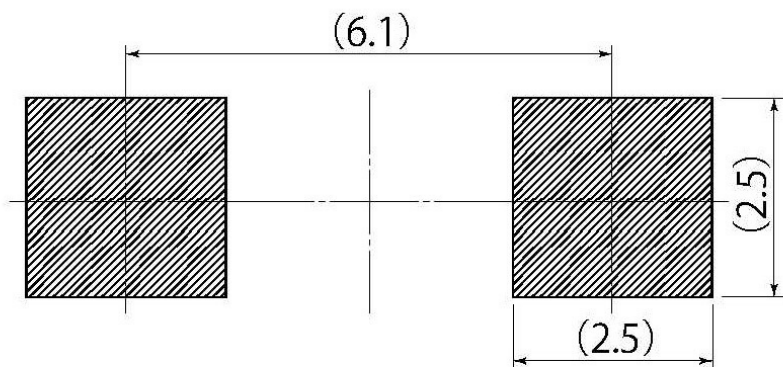
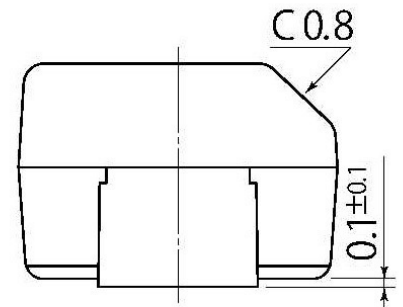
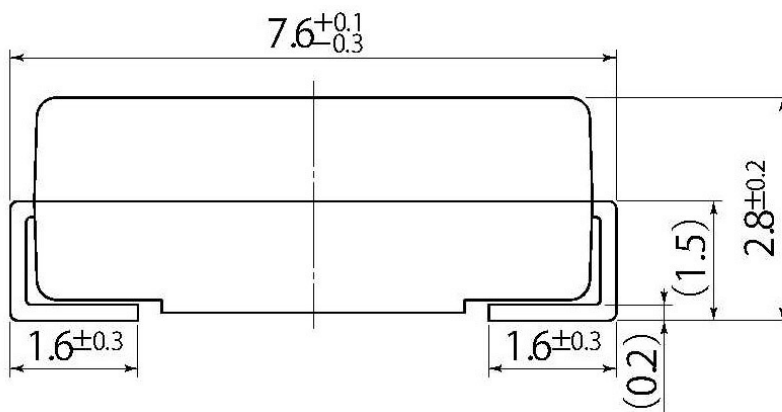
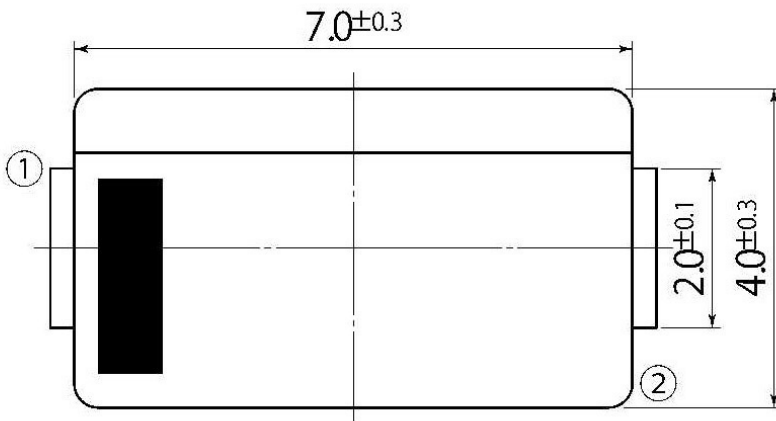
Type	Glass epoxy
Size	1 inch ²
Thickness	1mm
Conductor thickness	35 μm
Pattern area	3852mm ²

● TI sensing point



B9

JEDEC Code	—
JEITA Code	—
House Name	2F



Referential Soldering Pad

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

Notes

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