DG1S4

Schottky Barrier Diodes
40V, 1A

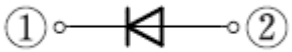
Feature

- Ultra-small SMD
- Ultra thin PKG
- Low V_F
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): G1F
Package (JEDEC Code): DO-219AB similar
Package (JEITA Code): SC-109

Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		40	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Ta=36℃ ※	1	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Ta=27℃ ※	0.7	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25℃	30	A

※ ：See the original Specifications

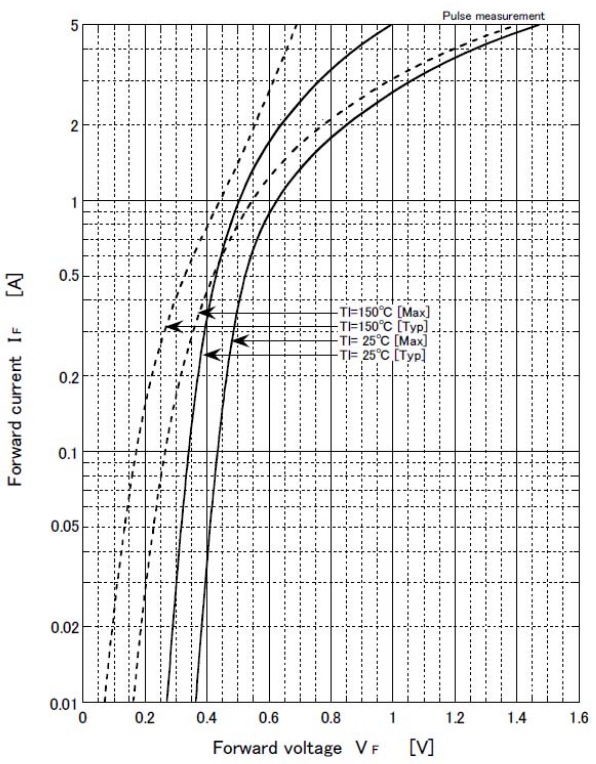
Electrical Characteristics (unless otherwise specified : Tl=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=0.7A, Pulse measurement			0.55	V
Reverse current	I_R	VR=40V, Pulse measurement			0.8	mA
Total capacitance	Ct	f=1MHz, VR=10V		37		pF
Thermal resistance	Rth(j-l)	Junction to lead, On alumina substrate ※			20	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			70	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On paper phenol substrate ※			120	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On paper phenol substrate ※			210	℃/W

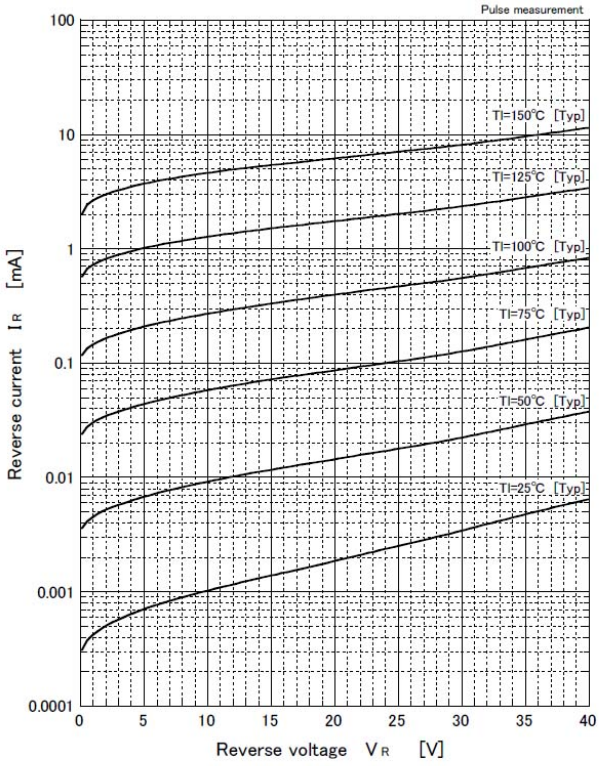
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

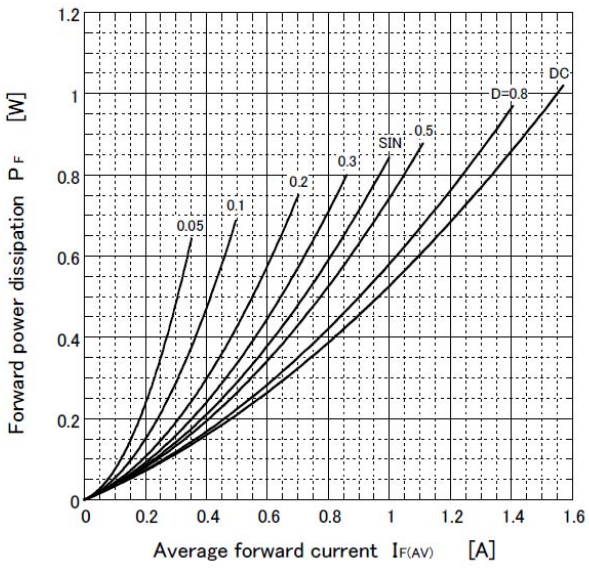
Forward voltage

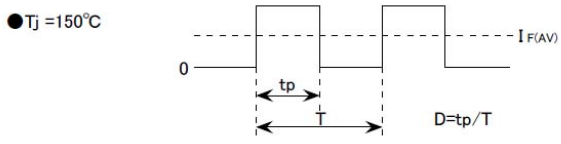


Reverse current

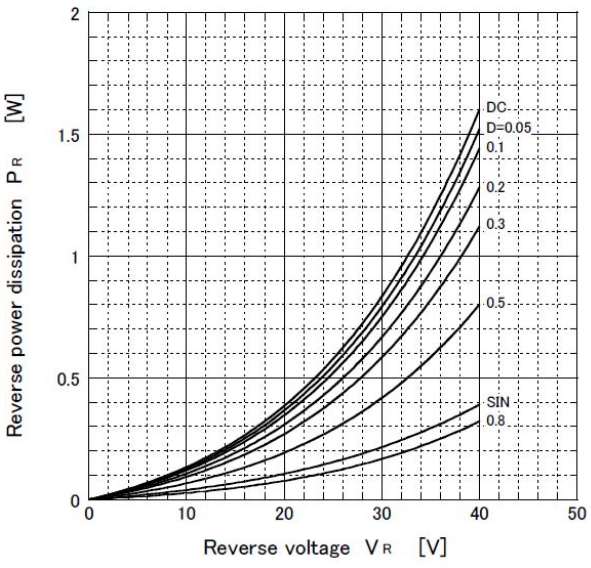


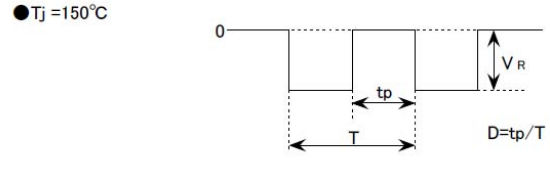
Forward power dissipation



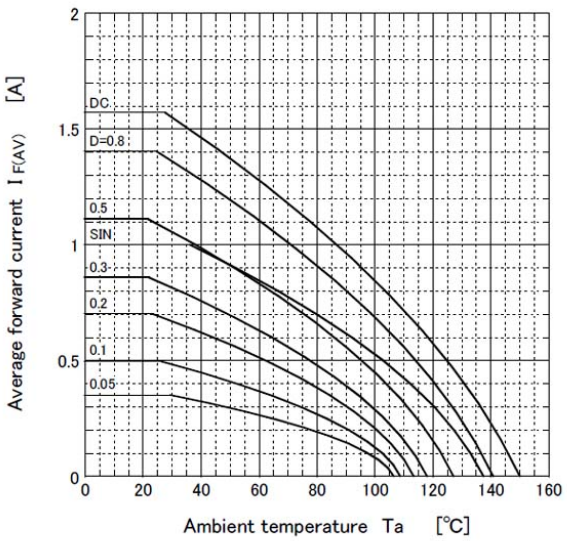


Reverse power dissipation





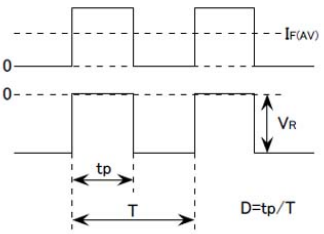
Derating curve



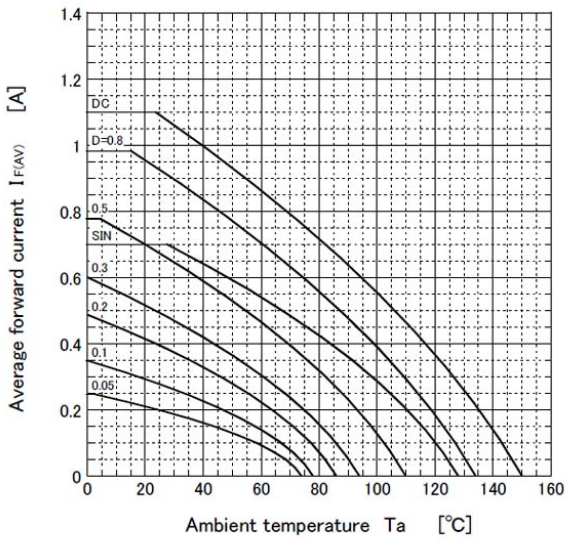
●V_R = 20V
R-load
Free in air

●Substrate detail

Type	Paper phenol
Size	1 inch²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	160mm²



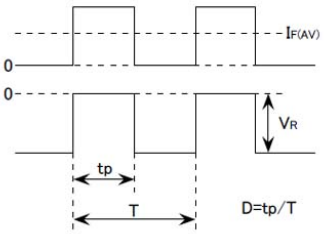
Derating curve



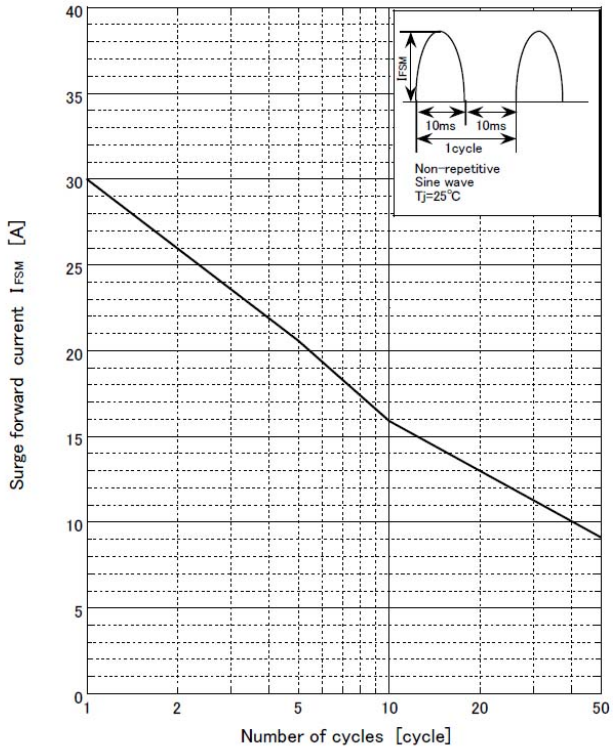
●V_R = 20V
R-load
Free in air

●Substrate detail

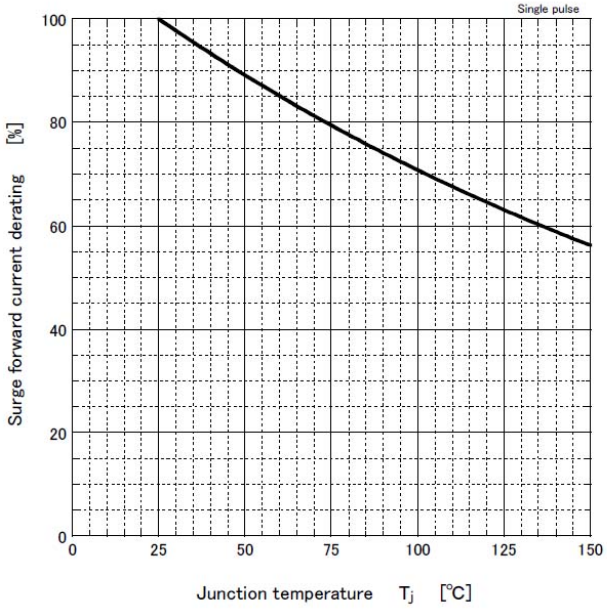
Type	Paper phenol
Size	1 inch²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	32.6mm²

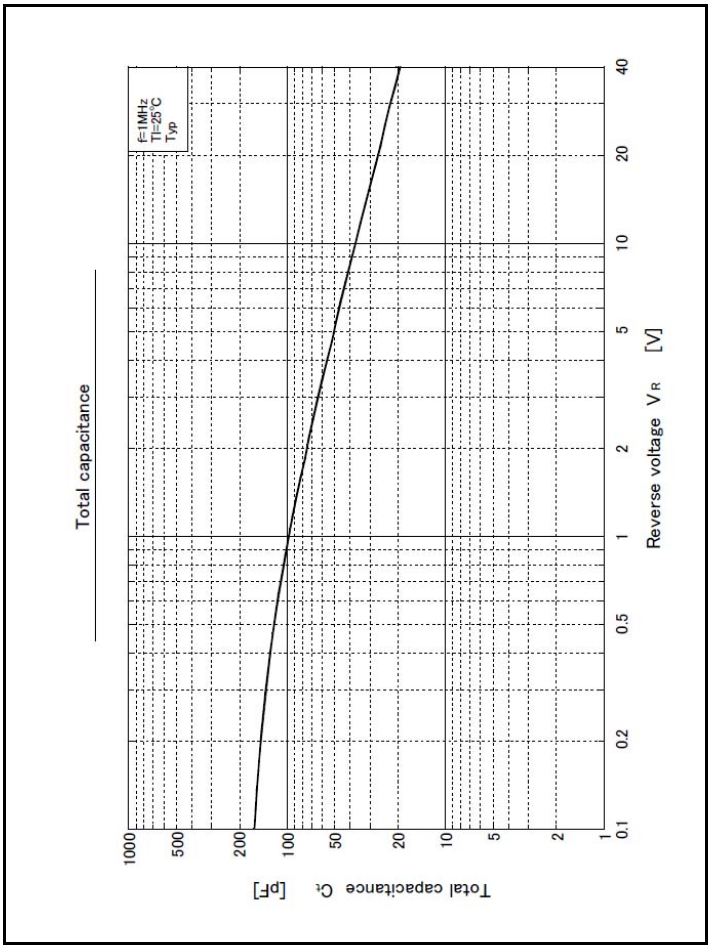


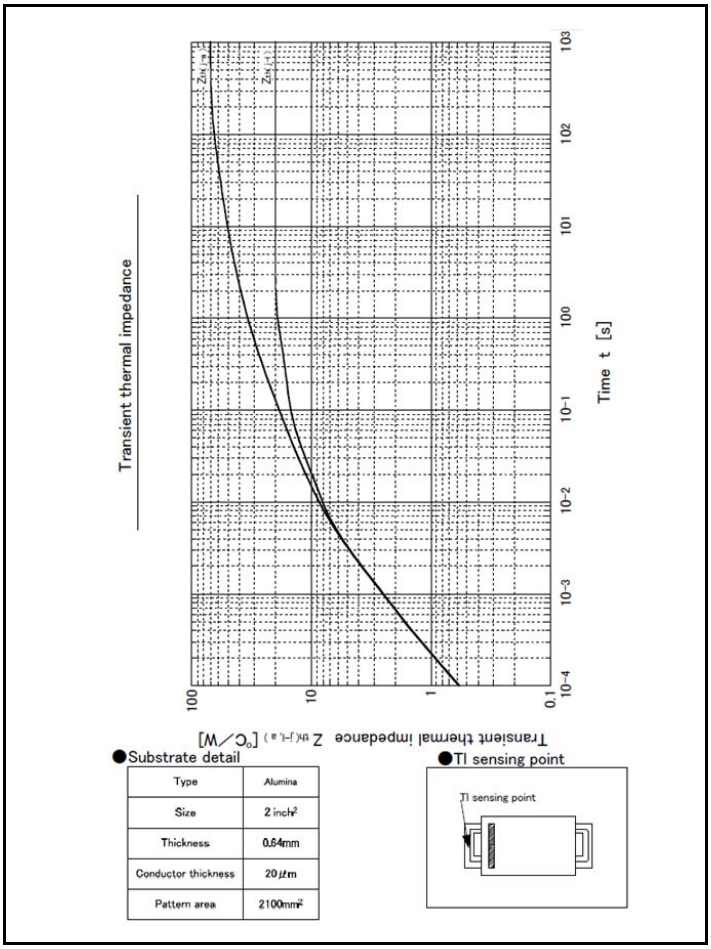
Surge forward current capability

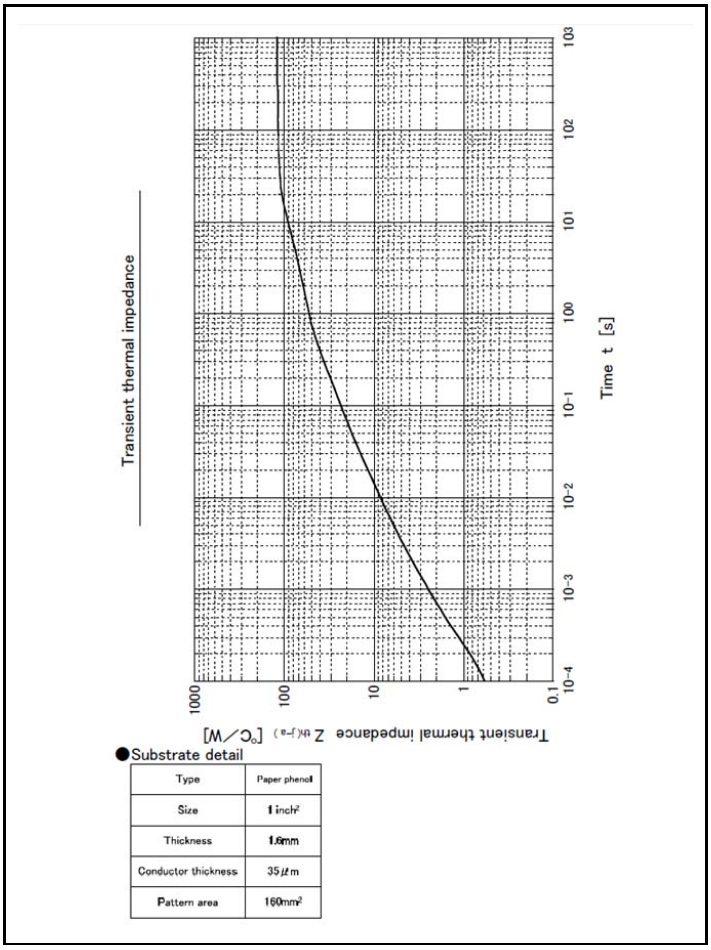


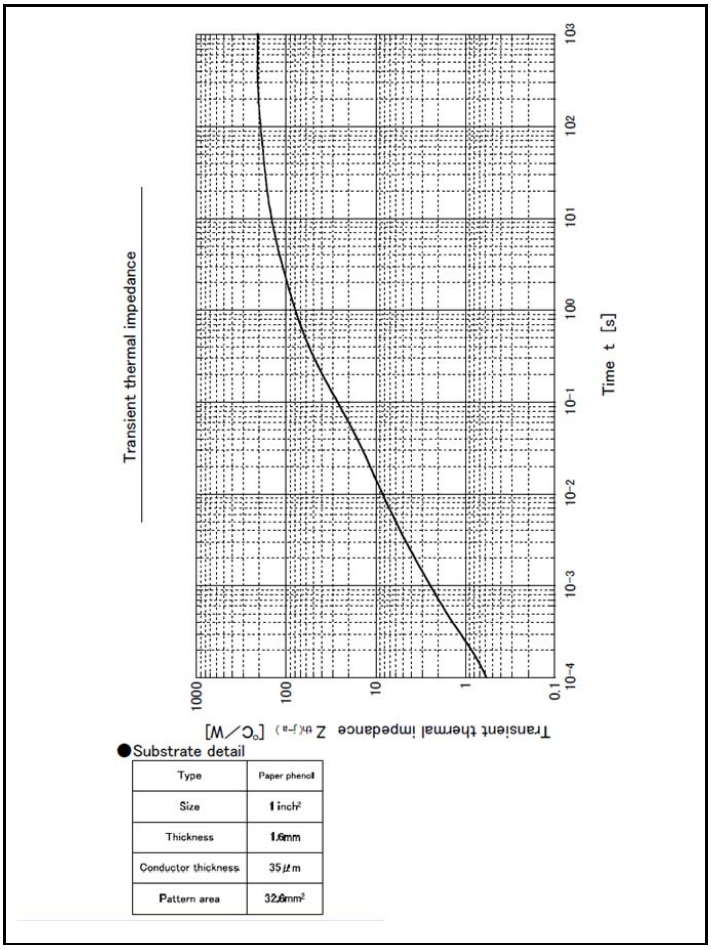
Surge forward current derating vs Junction temperature




Total capacitance
f=1MHz
Tl=25℃
Typ
Reverse voltage V_R [V]
Total capacitance C_t [pF]


Transient thermal impedance
Time t [s]
Transient thermal impedance $Z_{th(j-a)}$ [℃/W]
●Substrate detail
Type | Alumina
Size | 2 inch²
Thickness | 0.64mm
Conductor thickness | 20μm
Pattern area | 2100mm²
●Tl sensing point
Tl sensing point


Transient thermal impedance
Time t [s]
Transient thermal impedance $Z_{th(j-a)}$ [℃/W]
●Substrate detail
Type | Paper phenol
Size | 1 inch²
Thickness | 1.6mm
Conductor thickness | 35μm
Pattern area | 160mm²


Transient thermal impedance
Time t [s]
Transient thermal impedance $Z_{th(j-a)}$ [℃/W]
●Substrate detail
Type | Paper phenol
Size | 1 inch²
Thickness | 1.6mm
Conductor thickness | 35μm
Pattern area | 32.6mm²

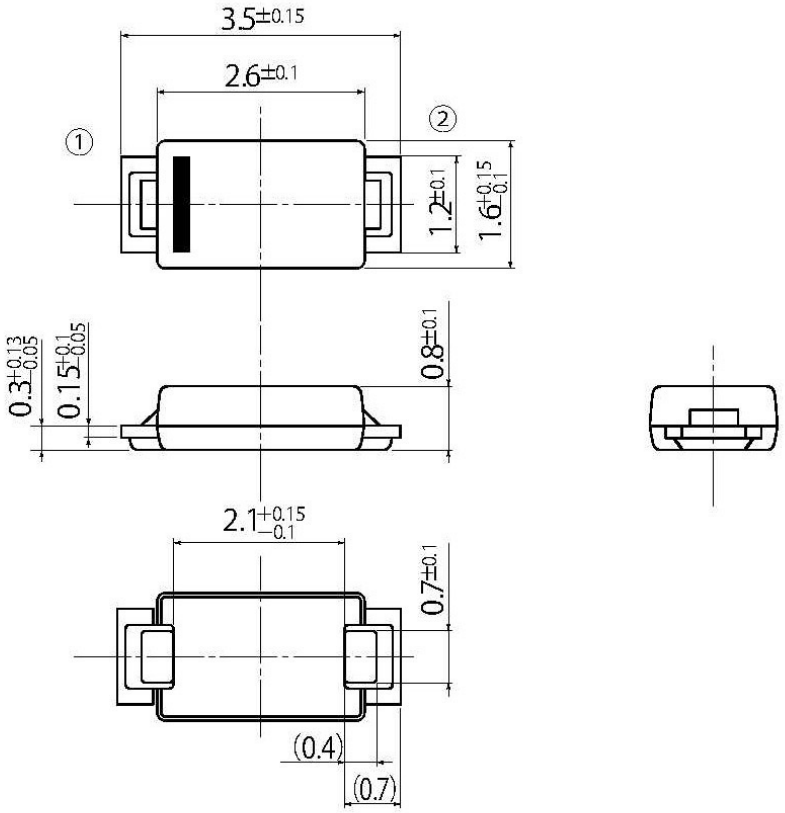
Outline Dimensions

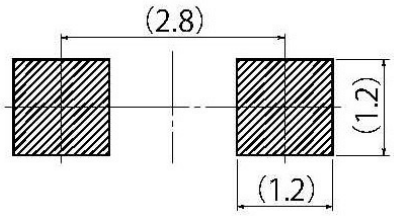
unit:mm

scale: 10/1

B1

JEDEC Code	DO-219AB similar
JEITA Code	SC-109
House Name	G1F





Referential Soldering Pad

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

Notes

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