D1FE60

General Rectifying Diodes
600V, 1.0A

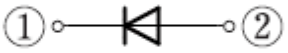
Feature

- Small SMD
- High ESD Capability
- Based on AEC-Q101
- 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 temperrature	T_{stg}		-55 to 150	℃
Junction temperature	T_j		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		600	V
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, Tl=126℃	1	A
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	1	A
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	0.8	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=25℃	30	A
Surge forward current	I_{FSM1}	tp=1ms, sine wave, Non-repetitive, peak value, Tj=25℃	70	A

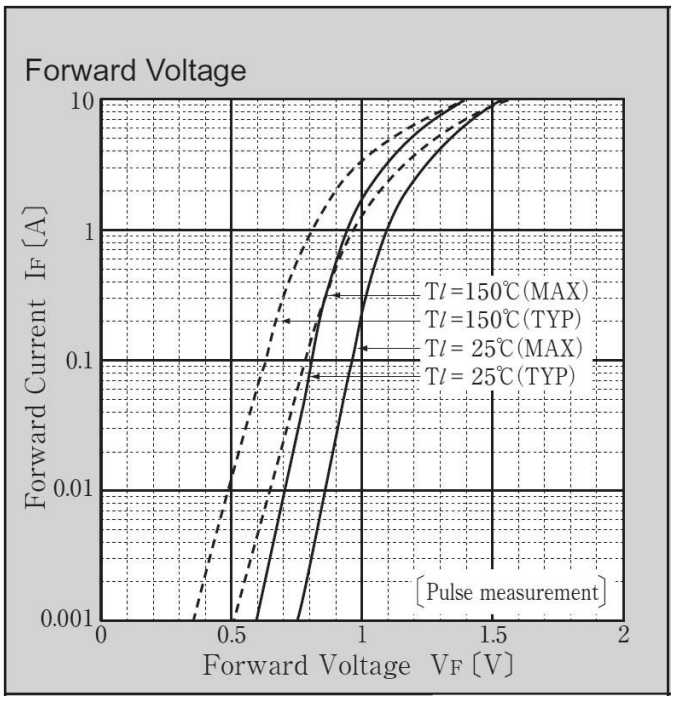
※ ：See the original Specifications

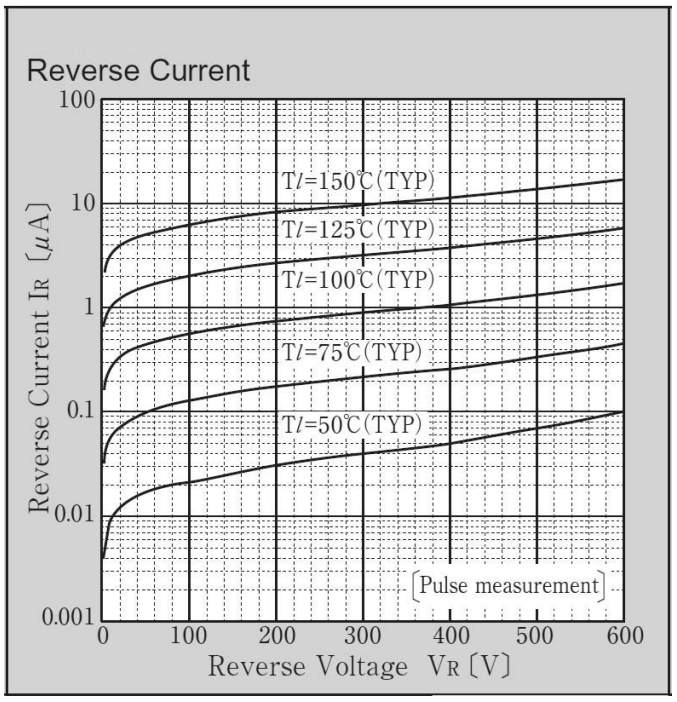
Electrical Characteristics (unless otherwise specified : Tl=25°C)

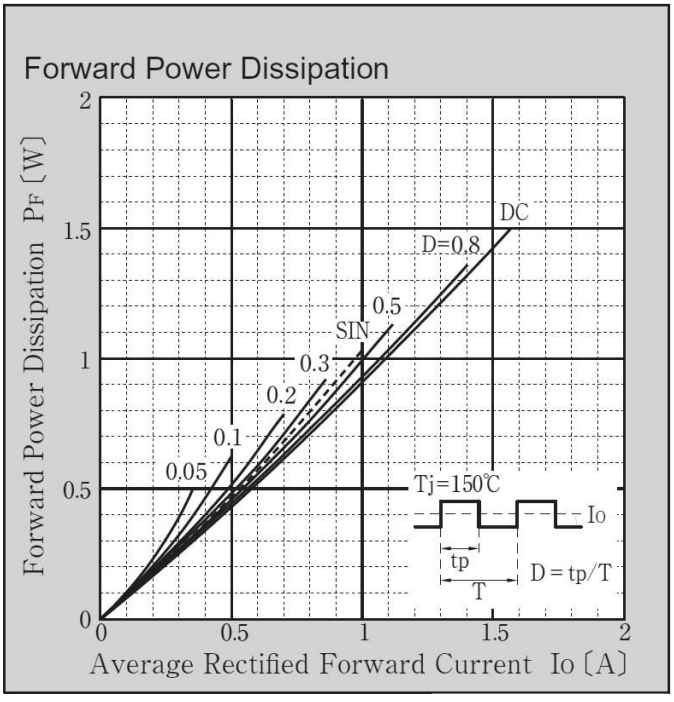
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF＝1A, Pulse measurement			1.1	V
Reverse current	I_R	VR=600V, Pulse measurement			10	μA
Electro static dischange Capability	V_{ESD}	C=150pF, R=150Ω, Polarity±, Aerial discharge		25		kV
Thermal resistance	$R_{th(j-l)}$	Junction to lead			23	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On alumina substrate ※			108	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On glass-epoxy substrate ※			157	°C/W

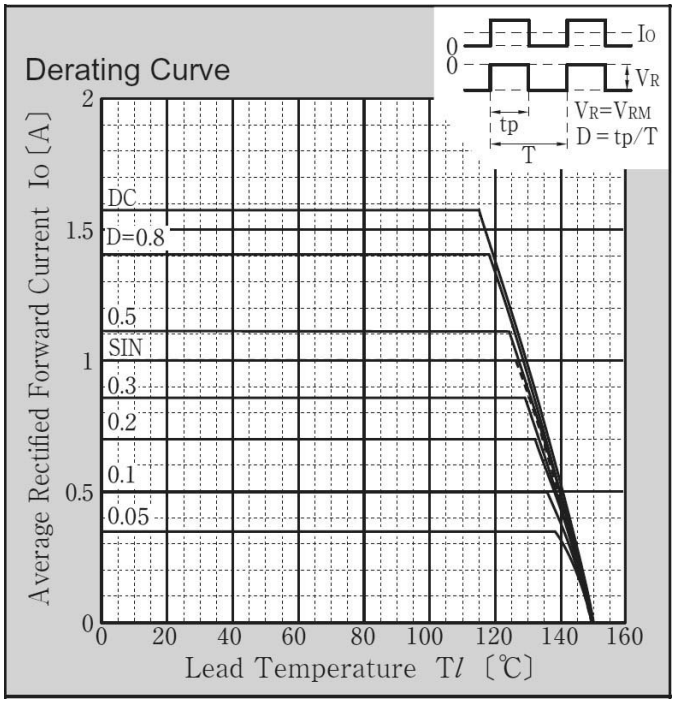
※ ：See the original Specifications

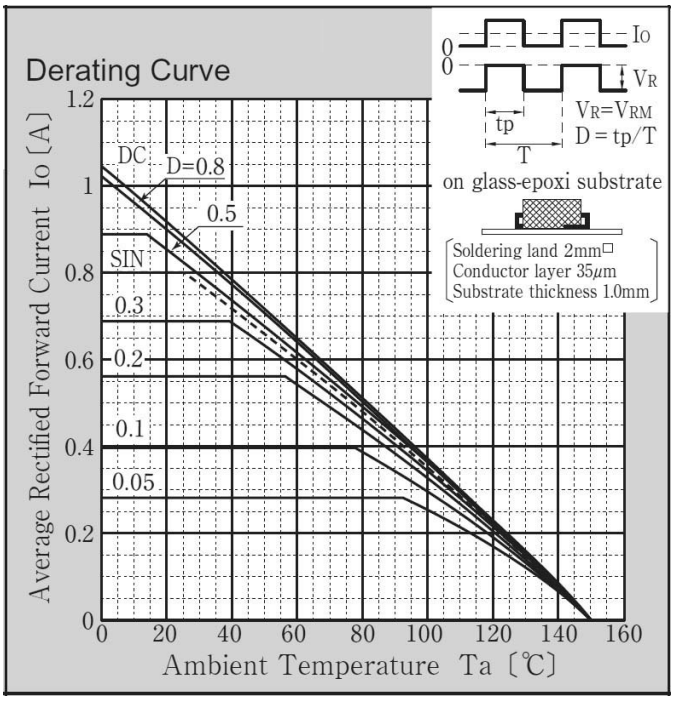
CHARACTERISTIC DIAGRAMS

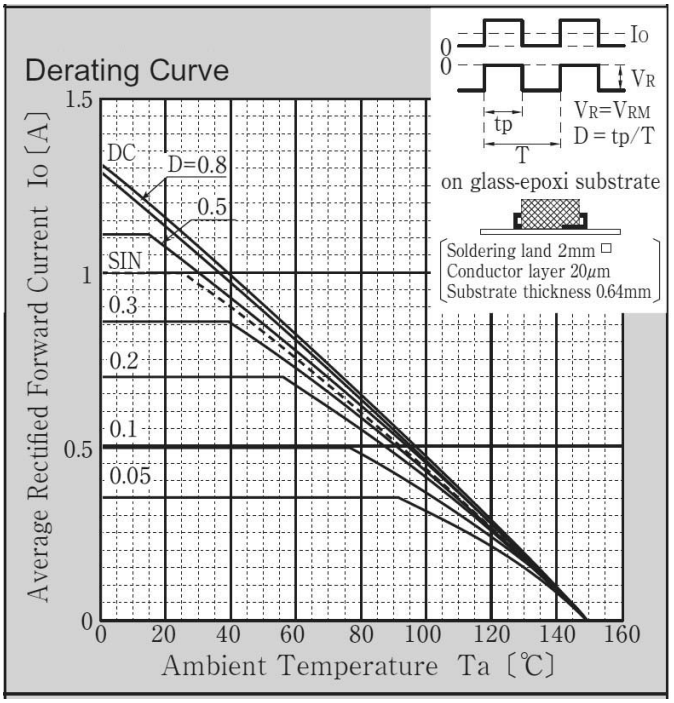


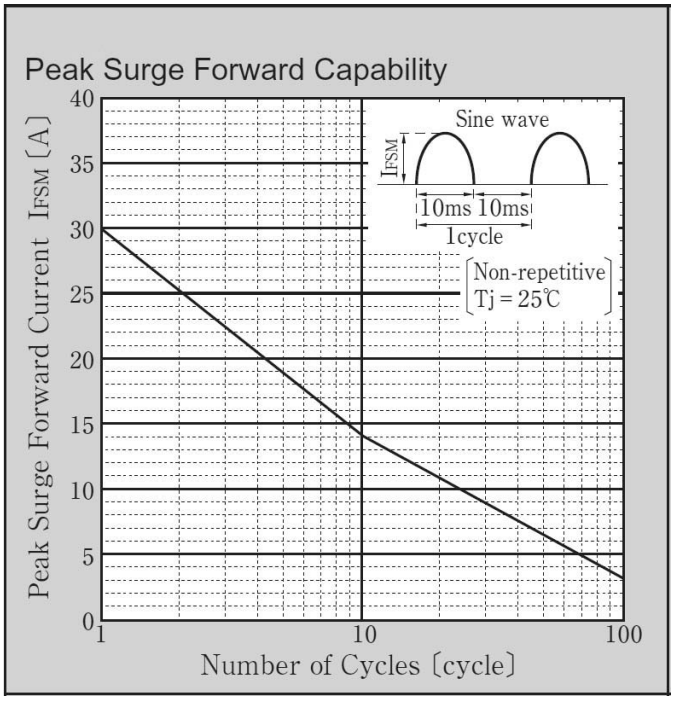


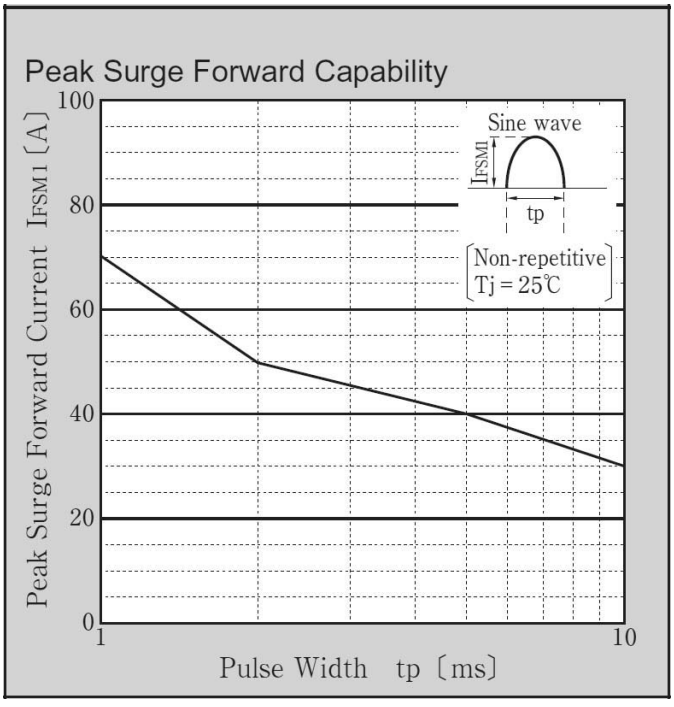


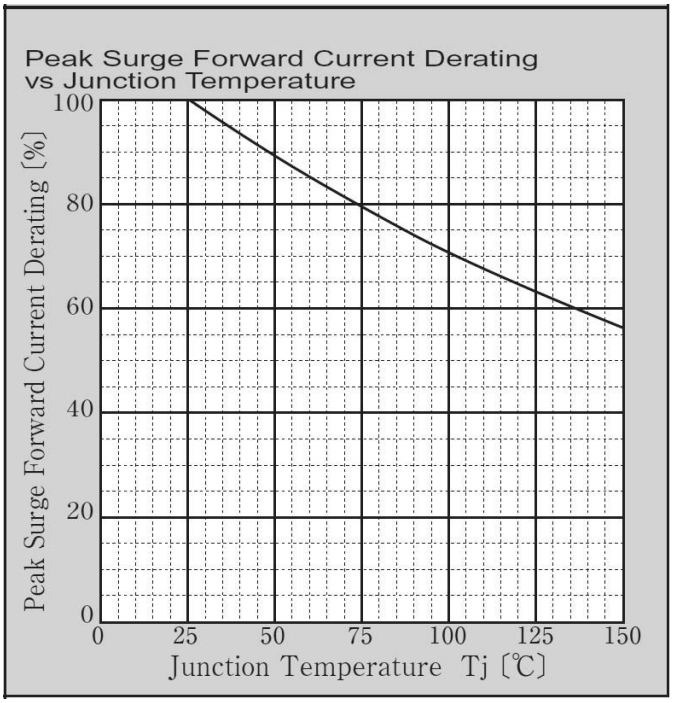


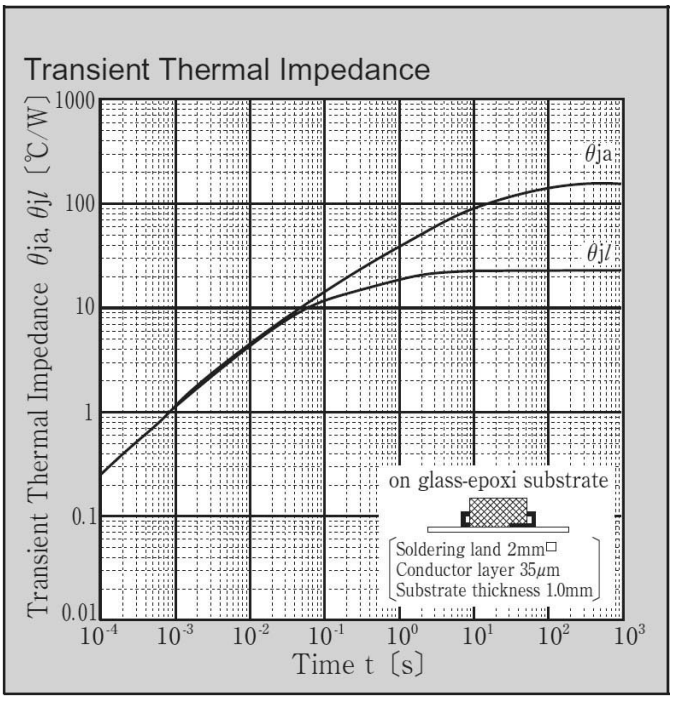

Derating Curve
Io
VR
VR=VRM
D = tp/T
tp
T
on glass-epoxi substrate
Soldering land 2mm□
Conductor layer 35μm
Substrate thickness 1.0mm
DC
D=0.8
0.5
SIN
0.3
0.2
0.1
0.05
Average Rectified Forward Current Io〔A〕
Ambient Temperature Ta〔℃〕

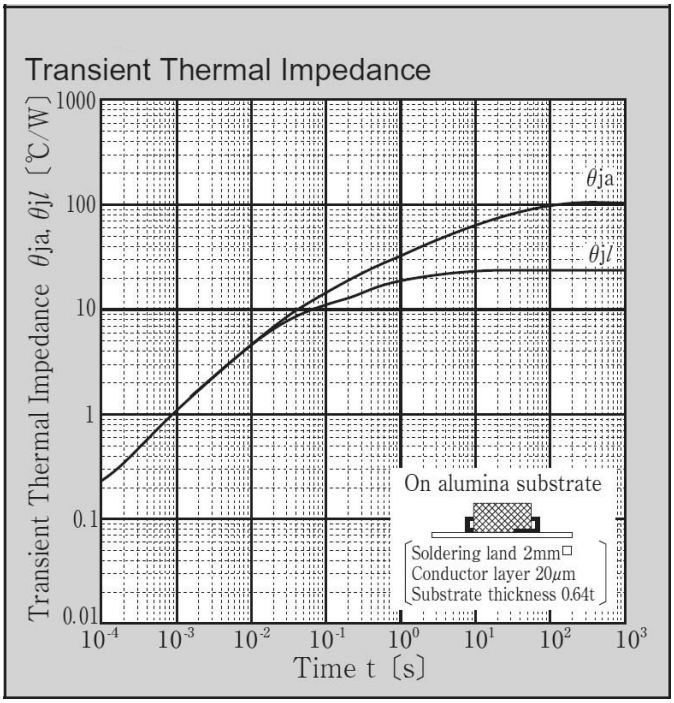

Derating Curve
Io
VR
VR=VRM
D = tp/T
tp
T
on glass-epoxi substrate
Soldering land 2mm□
Conductor layer 20μm
Substrate thickness 0.64mm
DC
D=0.8
0.5
SIN
0.3
0.2
0.1
0.05
Average Rectified Forward Current Io〔A〕
Ambient Temperature Ta〔℃〕


Peak Surge Forward Capability
Sine wave
IFSM
10ms 10ms
1cycle
Non-repetitive
Tj = 25℃
Peak Surge Forward Current IFSM〔A〕
Number of Cycles〔cycle〕


Peak Surge Forward Capability
Sine wave
IFSM
tp
Non-repetitive
Tj = 25℃
Peak Surge Forward Current IFSM1〔A〕
Pulse Width tp〔ms〕


Peak Surge Forward Current Derating
vs Junction Temperature
Peak Surge Forward Current Derating 〔%〕
100
80
60
40
20
0
0
25
50
75
100
125
150
Junction Temperature Tj 〔℃〕


Transient Thermal Impedance
Transient Thermal Impedance θja, θjl 〔℃/W〕
1000
100
10
1
0.1
0.01
θja
θjl
on glass-epoxi substrate
Soldering land 2mm□
Conductor layer 35μm
Substrate thickness 1.0mm
10-4
10-3
10-2
10-1
100
101
102
103
Time t 〔s〕


Transient Thermal Impedance
Transient Thermal Impedance θja, θjl 〔℃/W〕
1000
100
10
1
0.1
0.01
θja
θjl
On alumina substrate
Soldering land 2mm□
Conductor layer 20μm
Substrate thickness 0.64t
10-4
10-3
10-2
10-1
100
101
102
103
Time t 〔s〕

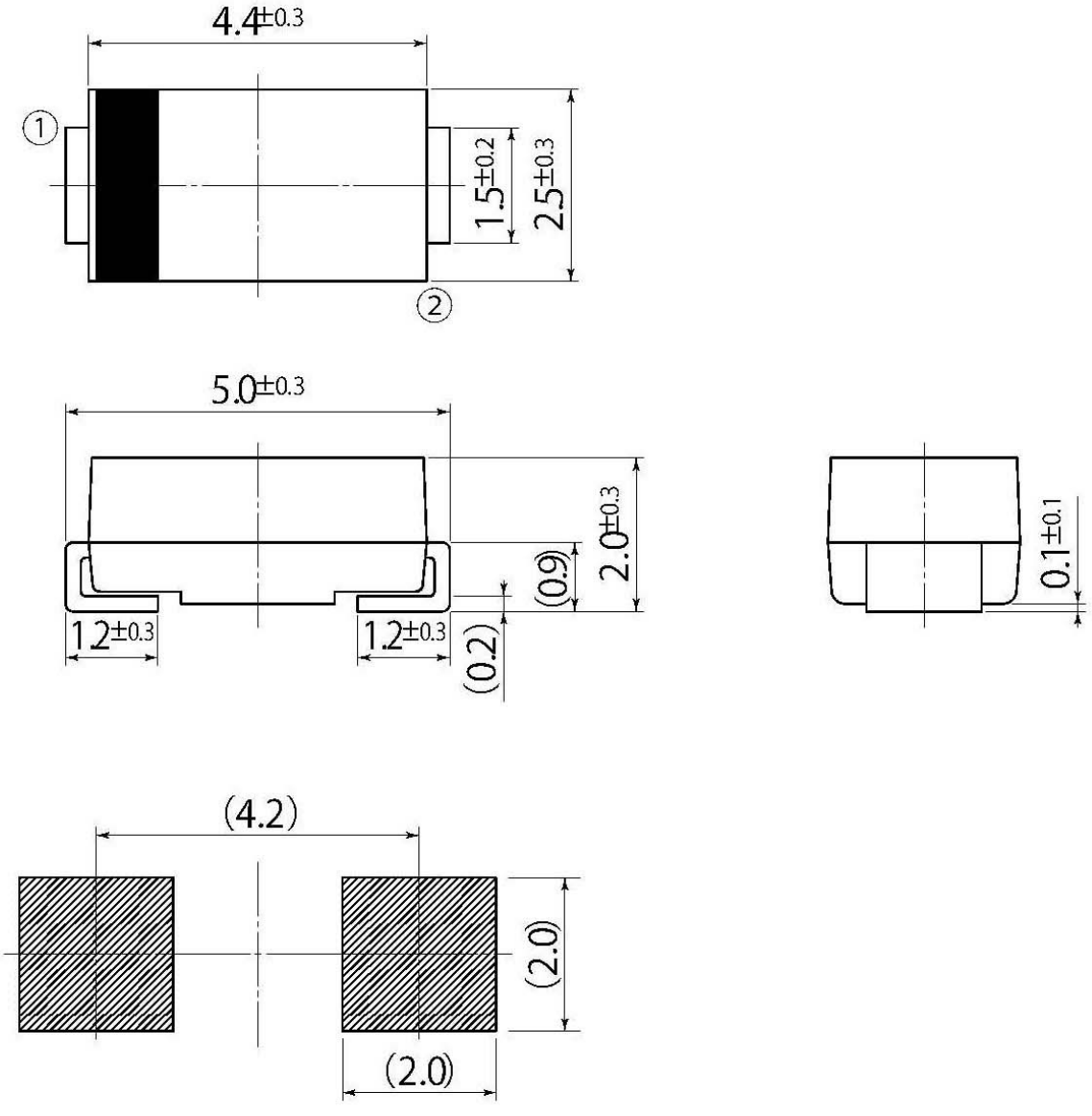
Outline Dimensions

unit:mm

scale: 10/1

B3

JEDEC Code	DO-214AC
JEITA Code	–
House Name	1F, CF



Referential Soldering Pad

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

Notes

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