ShinDengen

D1FT15A

Schottky Barrier Diodes
150V, 3A

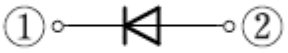
Feature

- Small SMD
- High Voltage
- Tj=175°C
- Ultra low I_R
- 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	Tstg		-55 to 175	°C
Junction temperature	Tj		-55 to 175	°C
Repetitive peak reverse voltage	V_{RRM}		150	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Tl=116°C	3	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1.8	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	1.3	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25°C	60	A

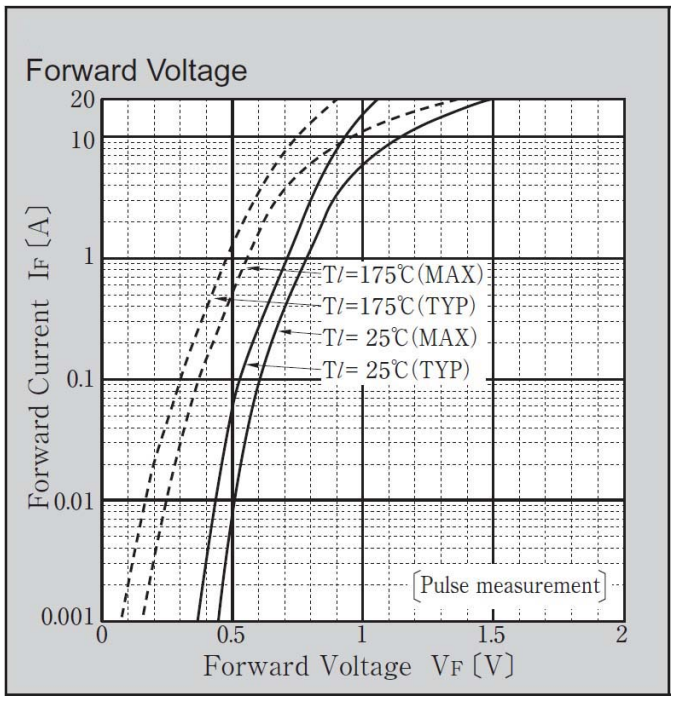
※ ：See the original Specifications

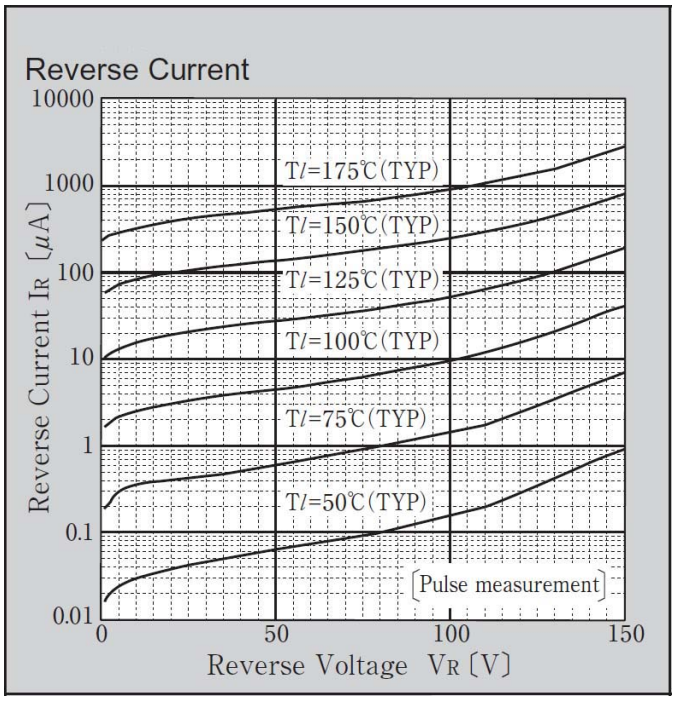
Electrical Characteristics (unless otherwise specified : Tl=25°C)

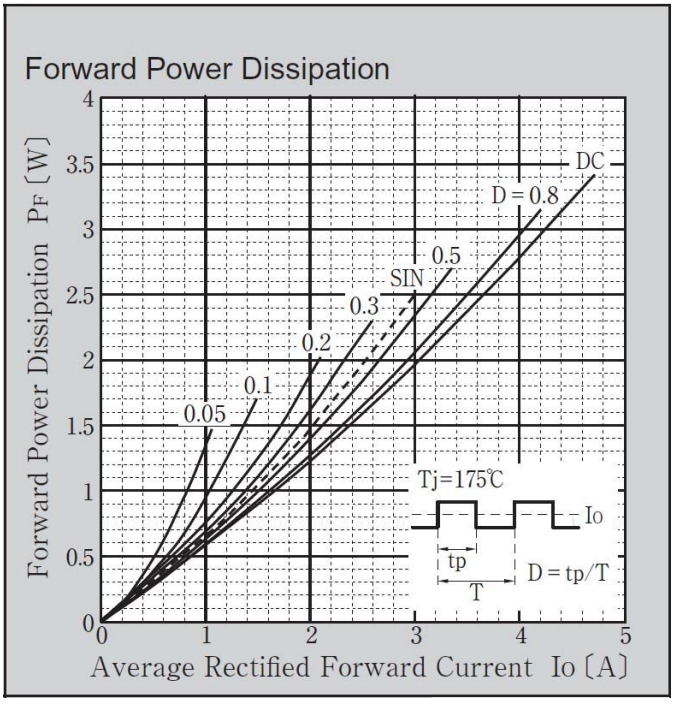
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=3A, Pulse measurement			0.88	V
Forward voltage	V_F	IF=1A, Pulse measurement			0.78	V
Reverse current	I_R	VR=150V, Pulse measurement			0.008	mA
Total capacitance	Ct	f=1MHz, VR=10V		52		pF
Thermal resistance	Rth(j-l)	Junction to lead			23	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			108	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			157	°C/W

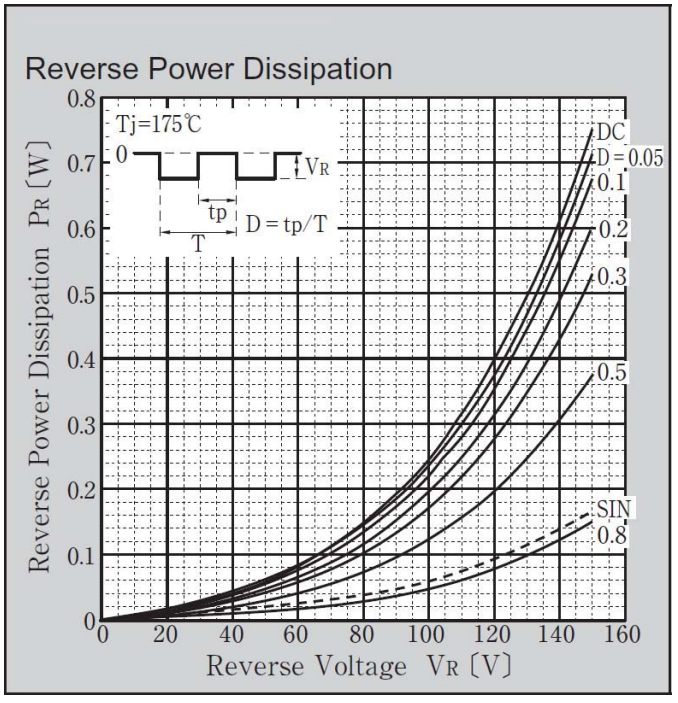
※ ：See the original Specifications

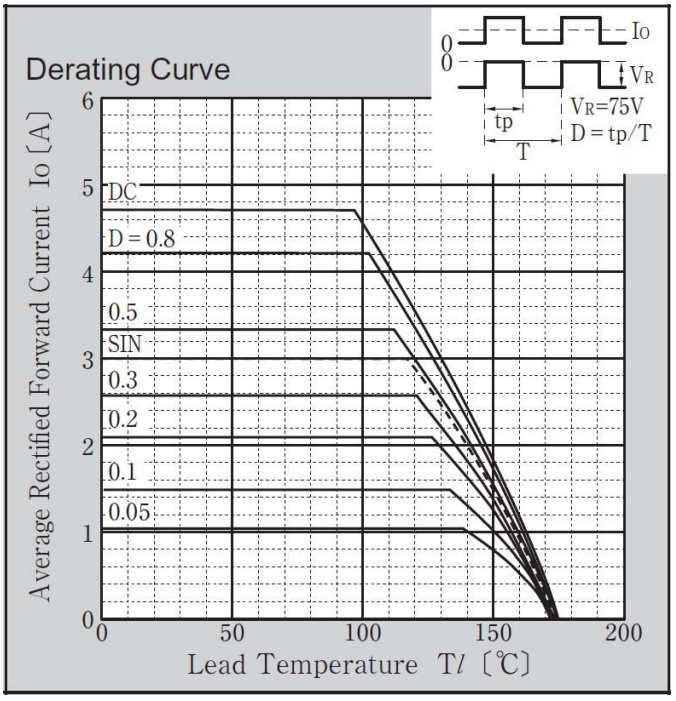
CHARACTERISTIC DIAGRAMS

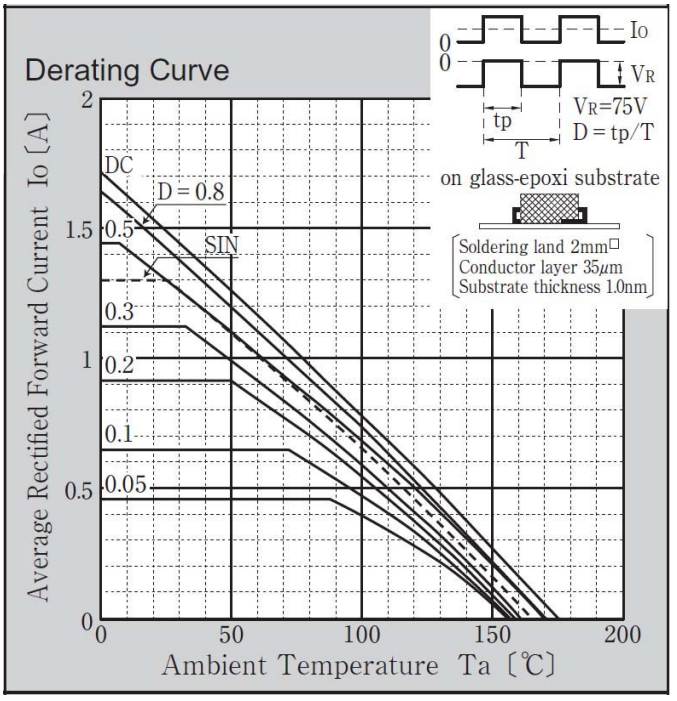


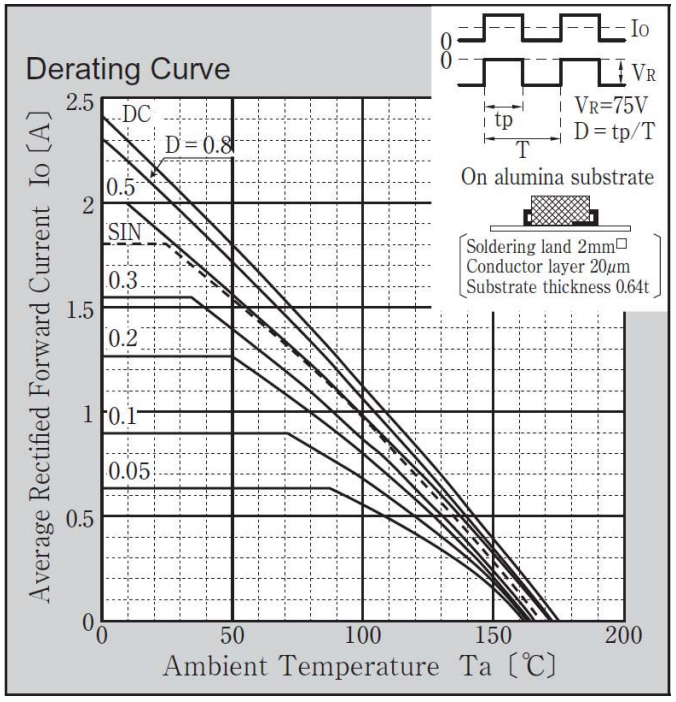


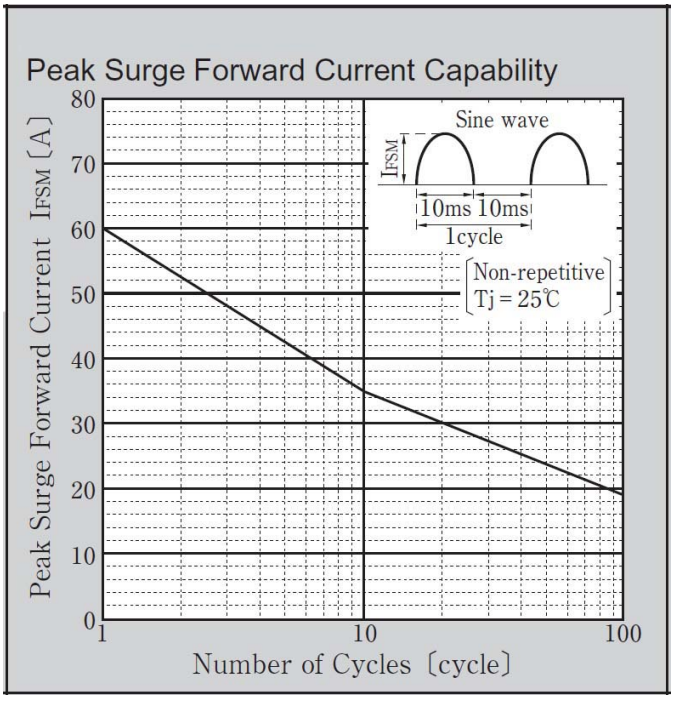


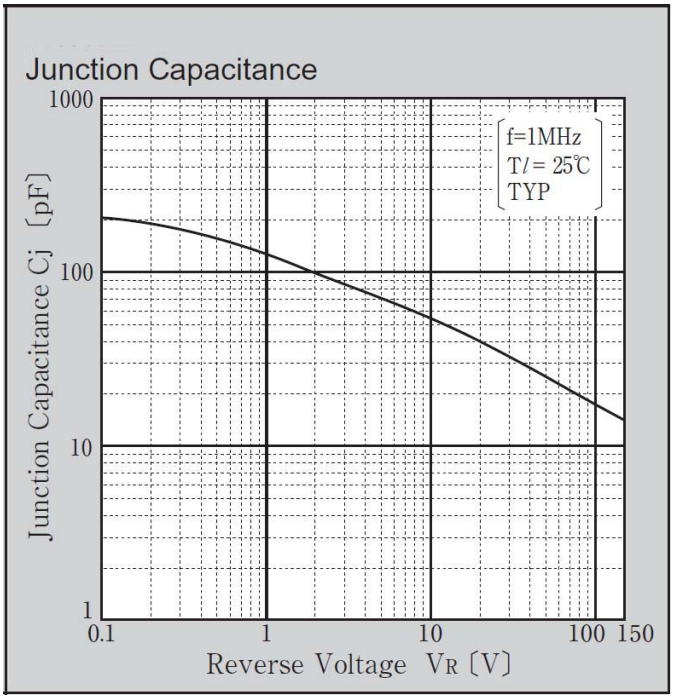


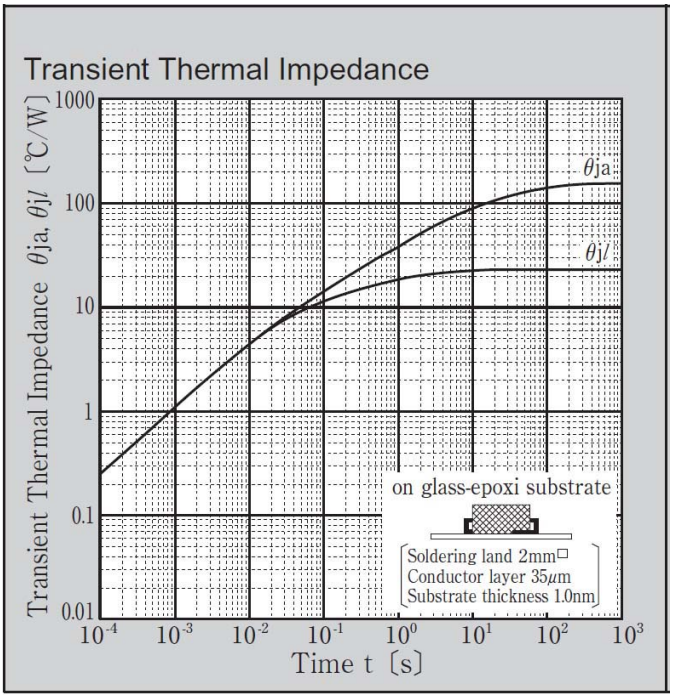

Derating Curve
Io
VR
tp
T
VR=75V
D = tp/T
Average Rectified Forward Current Io〔A〕
DC
D = 0.8
0.5
SIN
0.3
0.2
0.1
0.05
Lead Temperature Tl〔℃〕

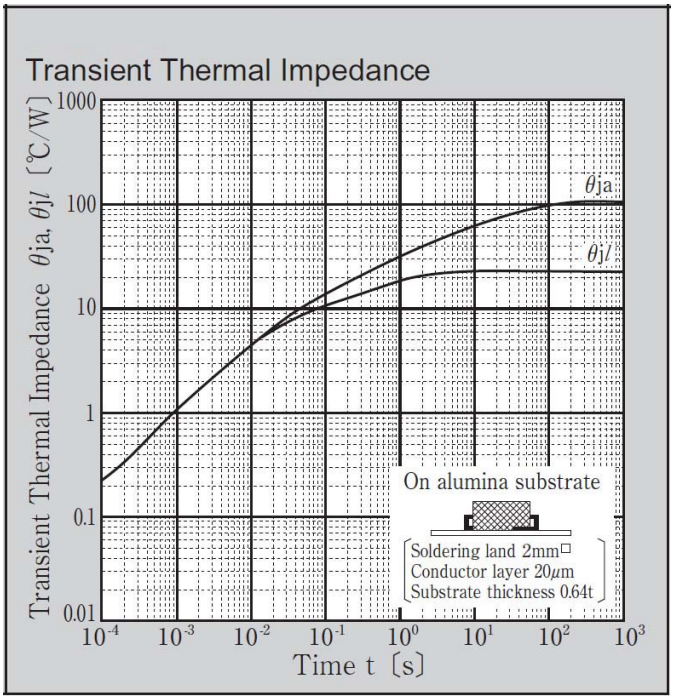

Derating Curve
Io
VR
tp
T
VR=75V
D = tp/T
on glass-epoxi substrate
Soldering land 2mm□
Conductor layer 35μm
Substrate thickness 1.0nm
Average Rectified Forward Current Io〔A〕
DC
D = 0.8
0.5
SIN
0.3
0.2
0.1
0.05
Ambient Temperature Ta〔℃〕


Derating Curve
Io
VR
tp
T
VR=75V
D = tp/T
On alumina substrate
Soldering land 2mm□
Conductor layer 20μm
Substrate thickness 0.64t
Average Rectified Forward Current Io〔A〕
DC
D = 0.8
0.5
SIN
0.3
0.2
0.1
0.05
Ambient Temperature Ta〔℃〕


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


Junction Capacitance
Junction Capacitance Cj 〔pF〕
1000
100
10
1
0.1
1
10
100 150
Reverse Voltage VR 〔V〕
f=1MHz
TJ= 25℃
TYP


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 1.0nm
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〕

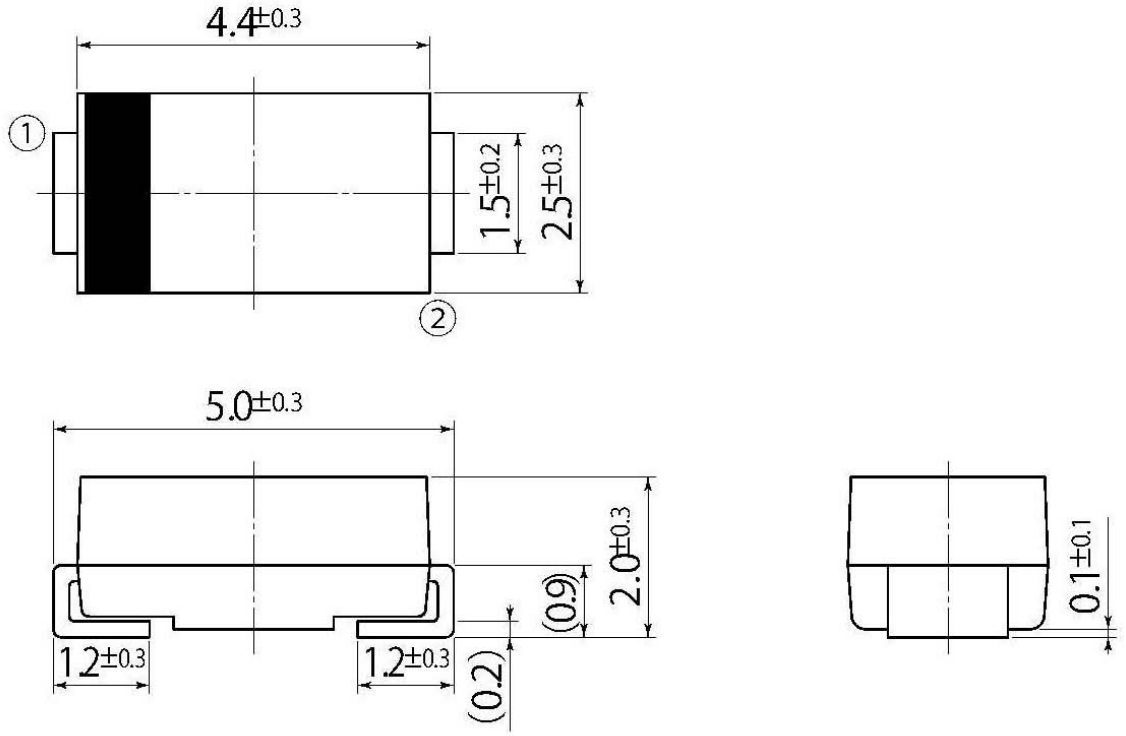
Outline Dimensions

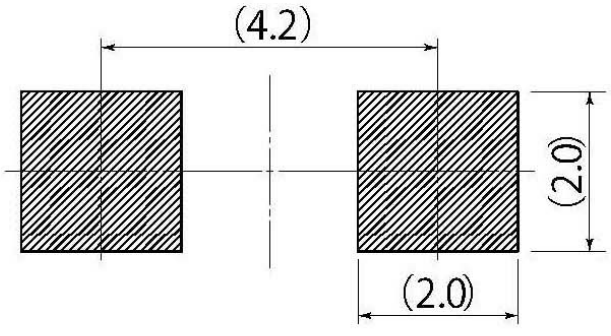
unit:mm

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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