

# DE3S6M

Schottky Barrier Diodes  
60V, 3A

**Feature**

- SMD
- High Recovery Speed
- Low  $V_F$
- Pb free terminal
- RoHS:Yes

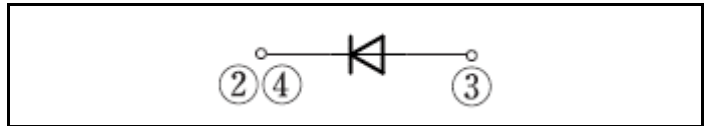
**OUTLINE**

Package (House Name): E-pack

Package (JEITA Code): SC-63



**Equivalent circuit**



**Absolute Maximum Ratings** (unless otherwise specified :  $T_c=25^\circ\text{C}$ )

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	$T_{stg}$		-40 to 150	$^\circ\text{C}$
Junction temperature	$T_j$		-40 to 150	$^\circ\text{C}$
Repetitive peak reverse voltage	$V_{RRM}$		60	V
Repetitive peak surge reverse voltage	$V_{RRSM}$	Pulse width 0.5ms, duty=1/40	65	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, $T_c=117^\circ\text{C}$ ※	3	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On alumina substrate, $T_a=31^\circ\text{C}$ ※	2.5	A
Surge forward current	$I_{FSM}$	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=125^\circ\text{C}$	80	A
Repetitive peak surge reverse power	$P_{RRSM}$	Pulse width 10 $\mu\text{s}$ , $T_j=25^\circ\text{C}$	330	W

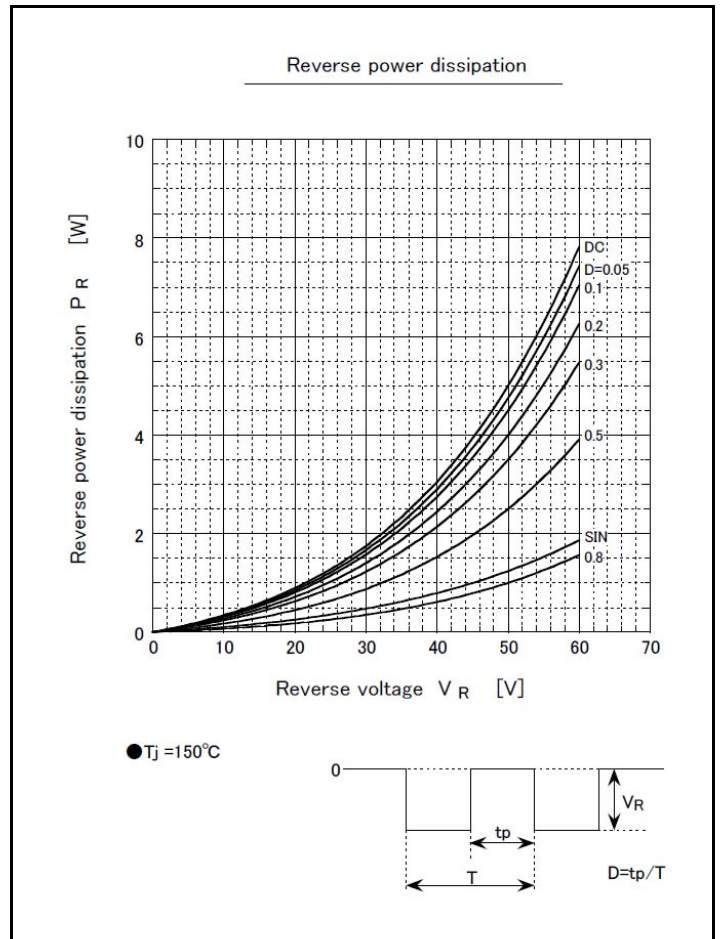
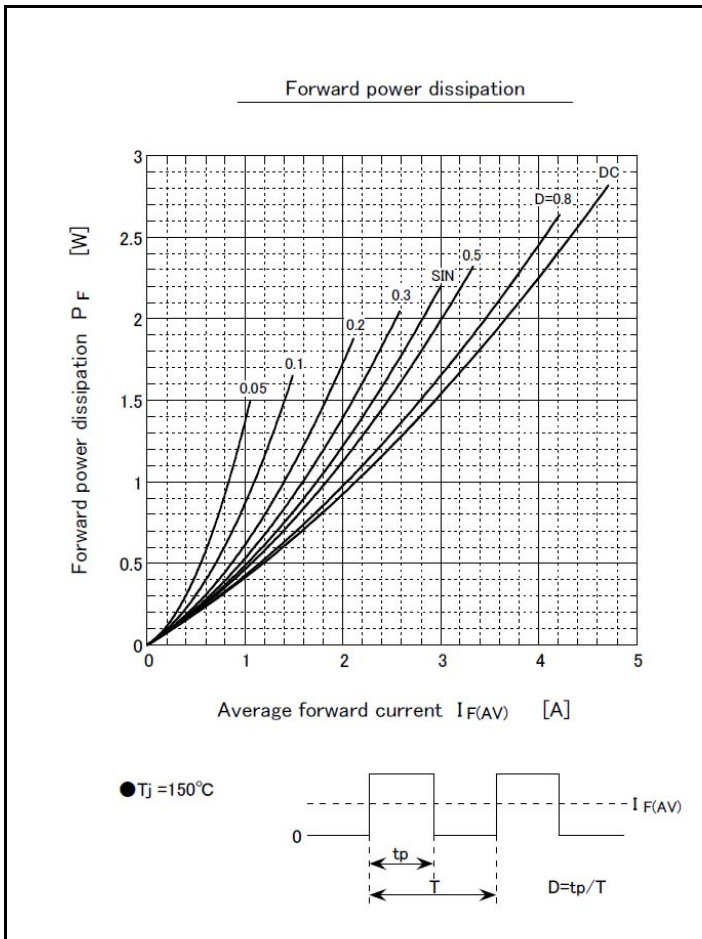
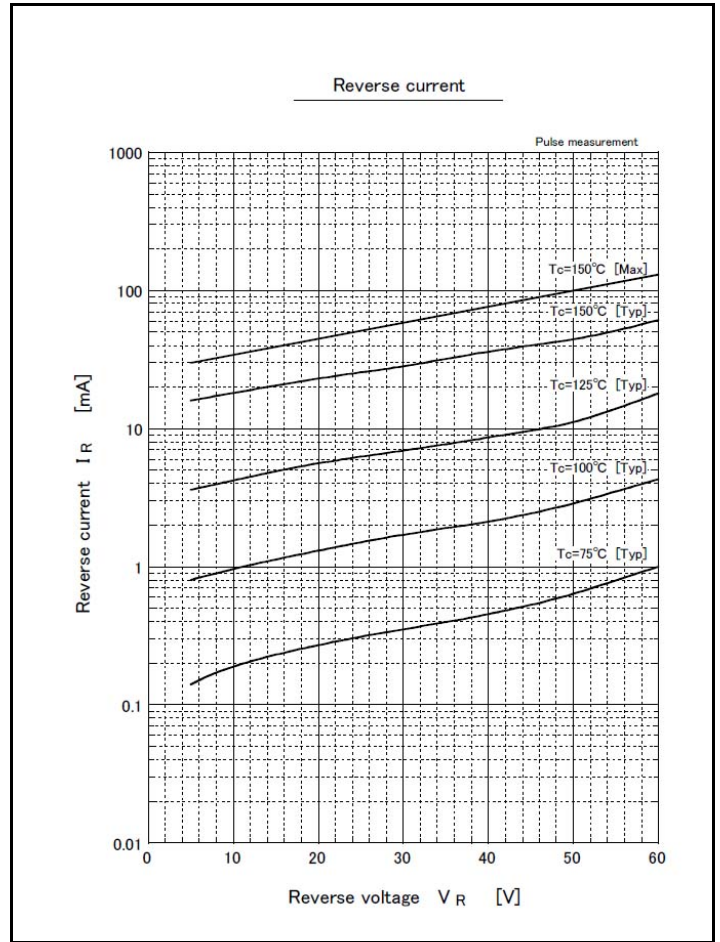
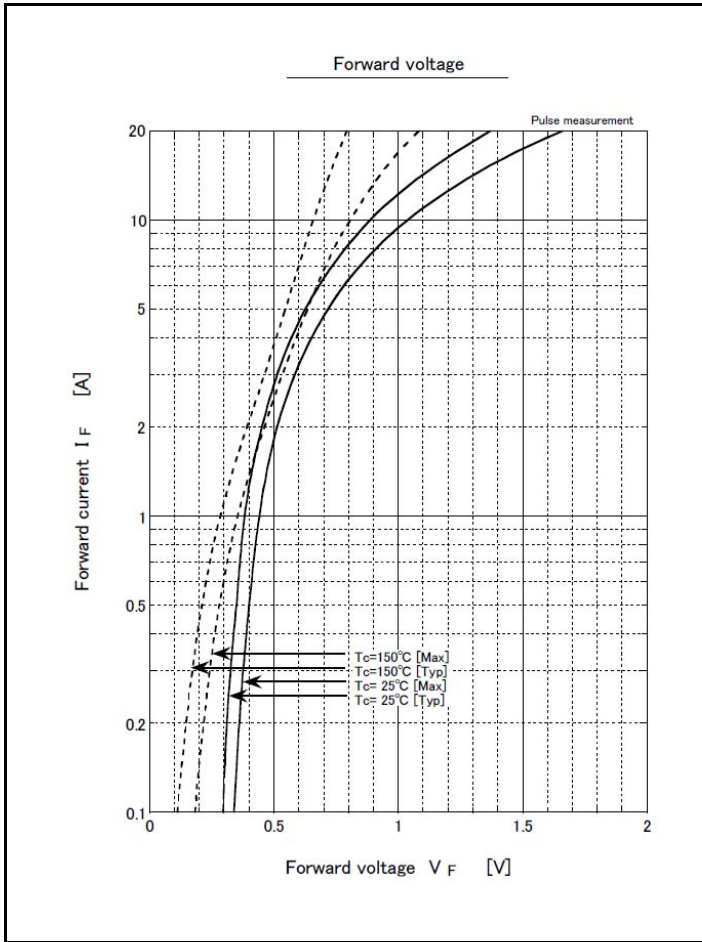
※ : See the original Specifications

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

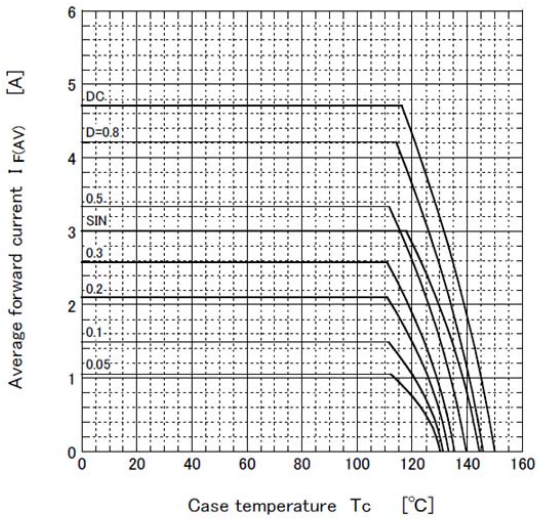
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =3A, Pulse measurement			0.58	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =60V, Pulse measurement			2.5	mA
Total capacitance	C <sub>t</sub>	f=1MHz, V <sub>R</sub> =10V		130		pF
Thermal resistance	R <sub>th(j-c)</sub>	Junction to case, On alumina substrate, With heatsink ※			12	°C/W
Thermal resistance	R <sub>th(j-a)</sub>	Junction to ambient, On alumina substrate ※			55	°C/W

※ :See the original Specifications

# CHARACTERISTIC DIAGRAMS



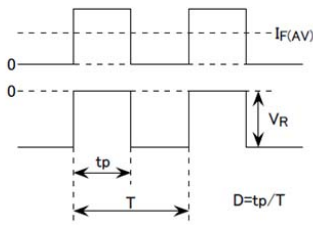
Derating curve



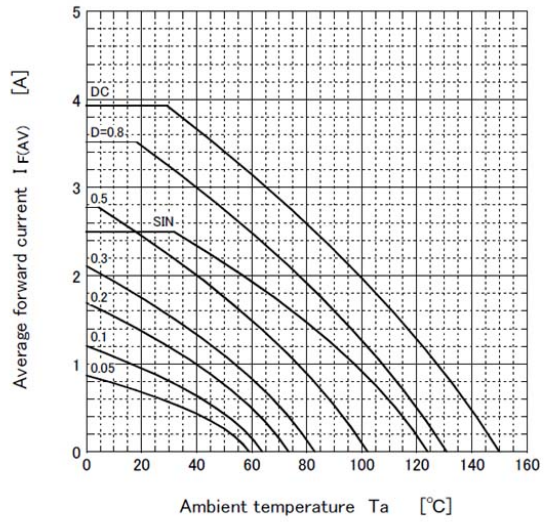
- $V_R = 30V$   
R-load  
With heatsink

- Substrate detail

Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	65mm <sup>2</sup>



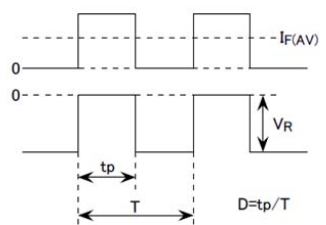
Derating curve



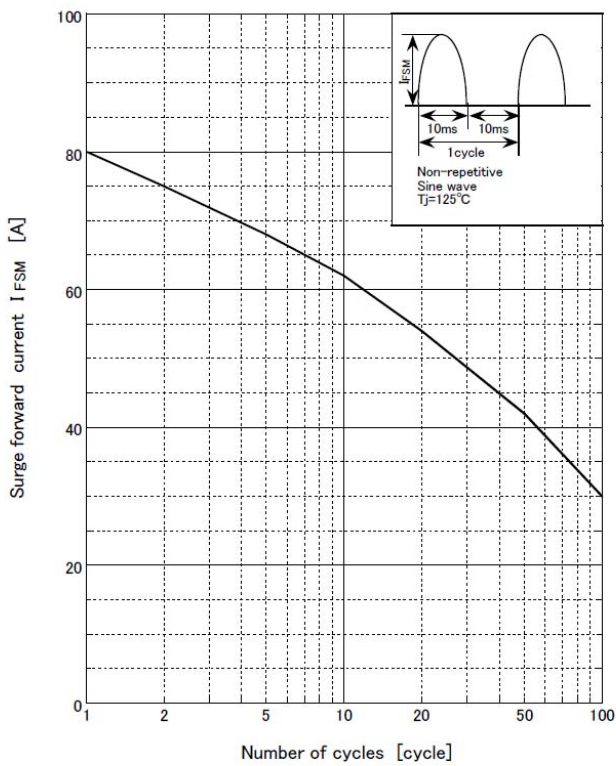
- $V_R = 30V$   
R-load  
free in air

- Substrate detail

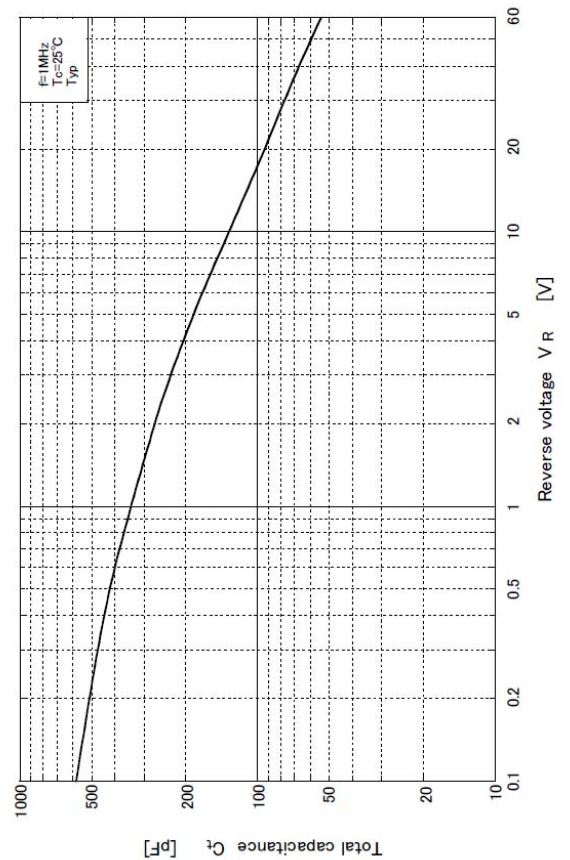
Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	65mm <sup>2</sup>



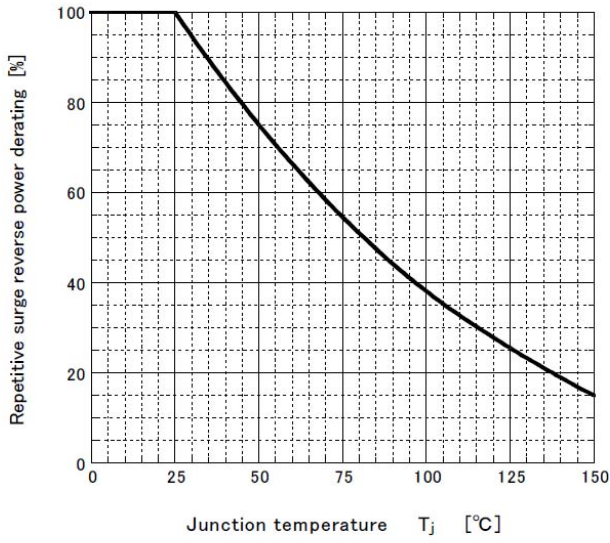
Surge forward current capability



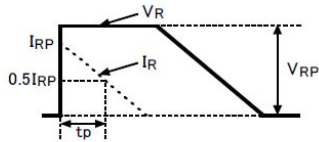
Total capacitance



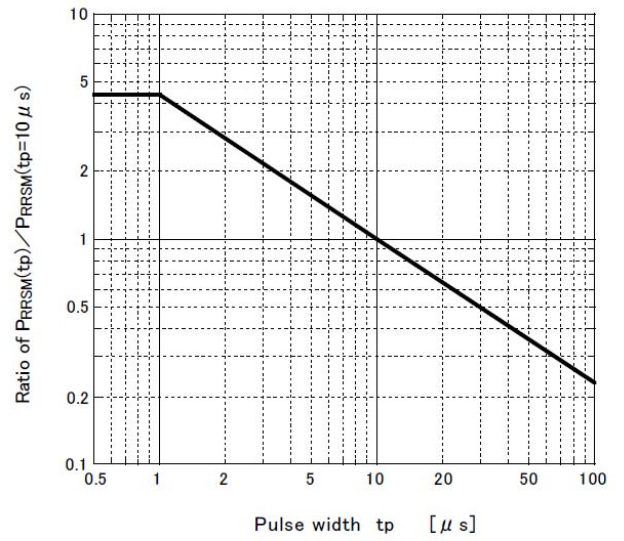
Repetitive surge reverse power derating vs Junction temperature



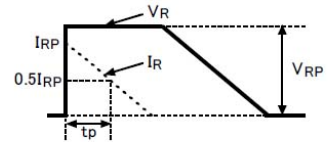
●  $P_{RRSM} = I_{RP} \times V_{RP}$



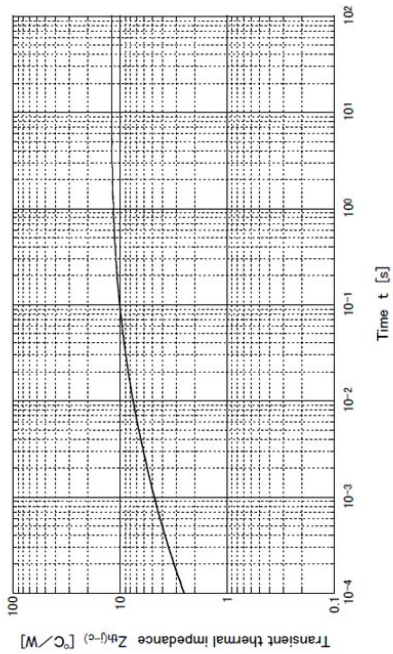
Repetitive surge reverse power capability



●  $P_{RRSM} = I_{RP} \times V_{RP}$



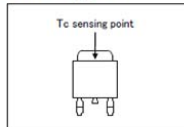
Transient thermal impedance



● Substrate detail

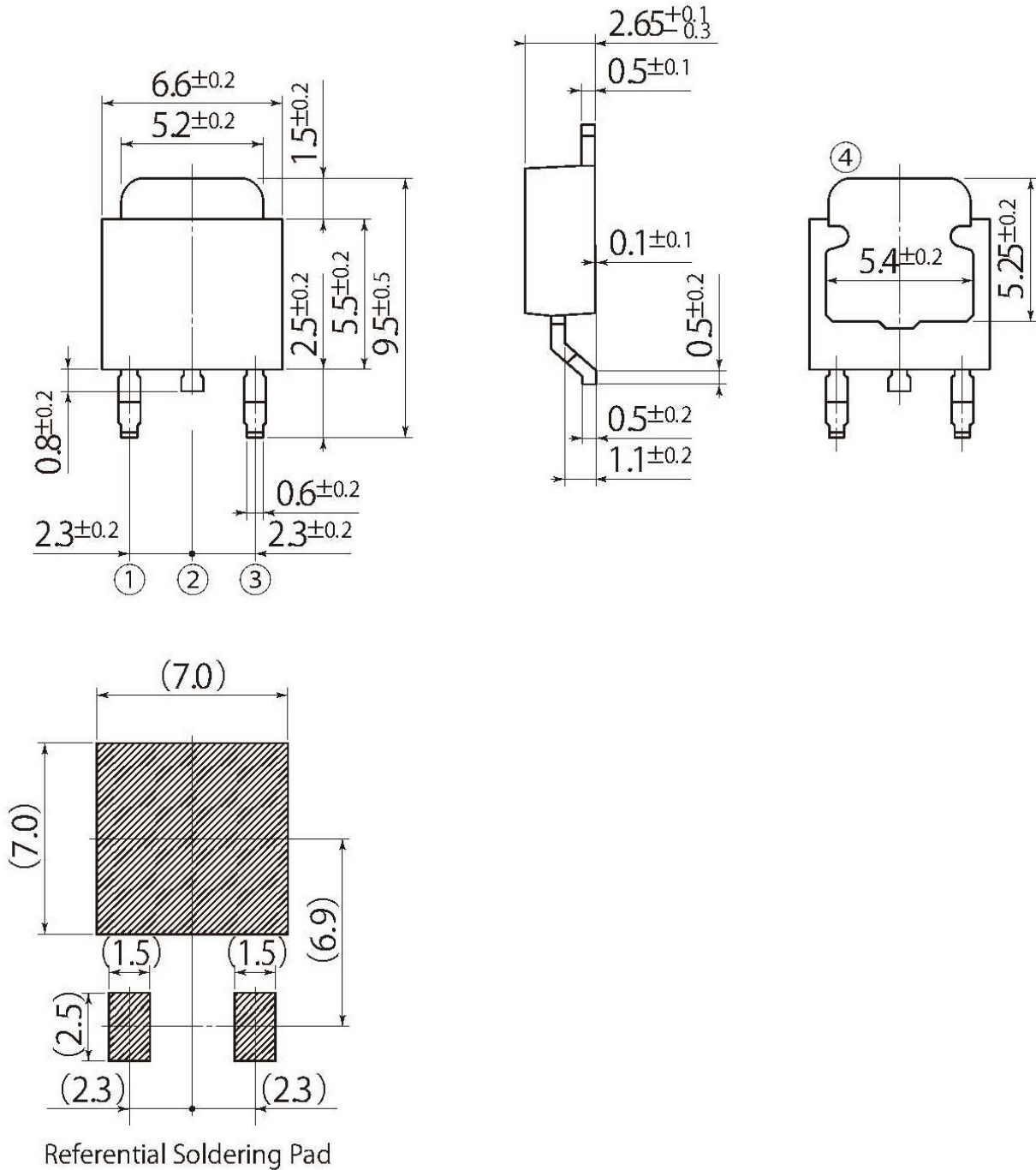
Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	65mm <sup>2</sup>

● Tc sensing point



G1

JEDEC Code	-
JEITA Code	SC-63
House Name	E-pack



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

## Notes

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  - 【Specific applications】  
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