

DE5SC6M

Schottky Barrier Diodes

60V, 5A

Feature

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

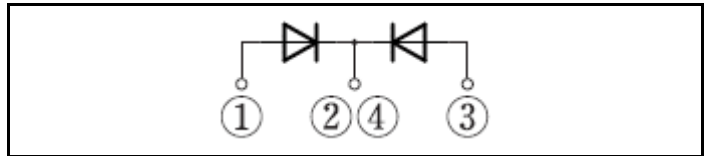
OUTLINE

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, Rating for each diode $I_{F(AV)}/2$, $T_c=92^\circ\text{C}$ *	5	A
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, Rating for each diode $I_{F(AV)}/2$, $T_a=42^\circ\text{C}$, On alumina substrate *	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 μs , $T_j=25^\circ\text{C}$, per diode	330	W

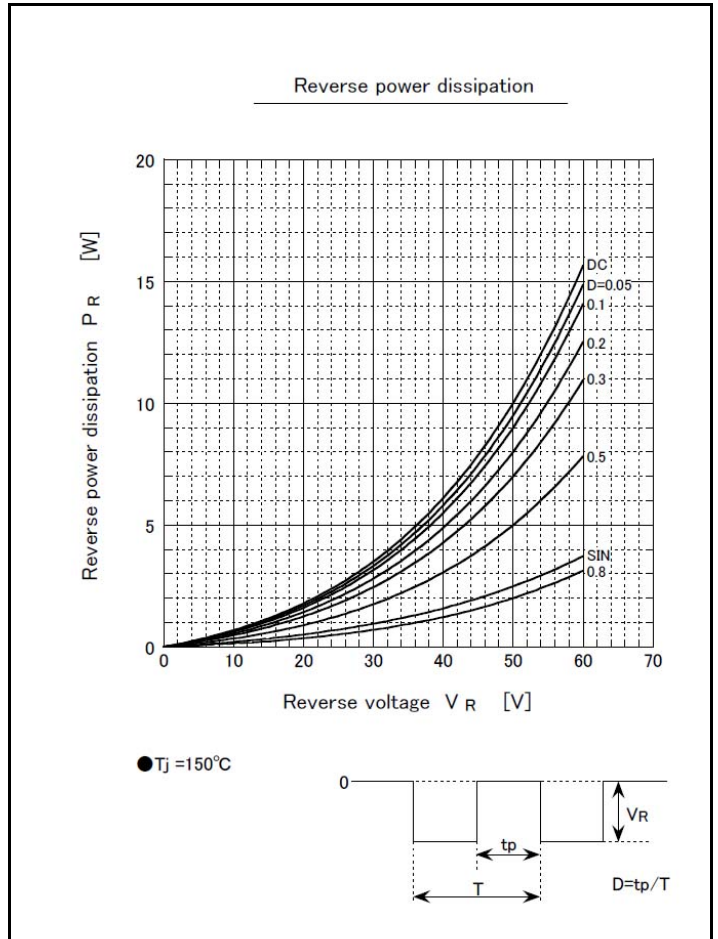
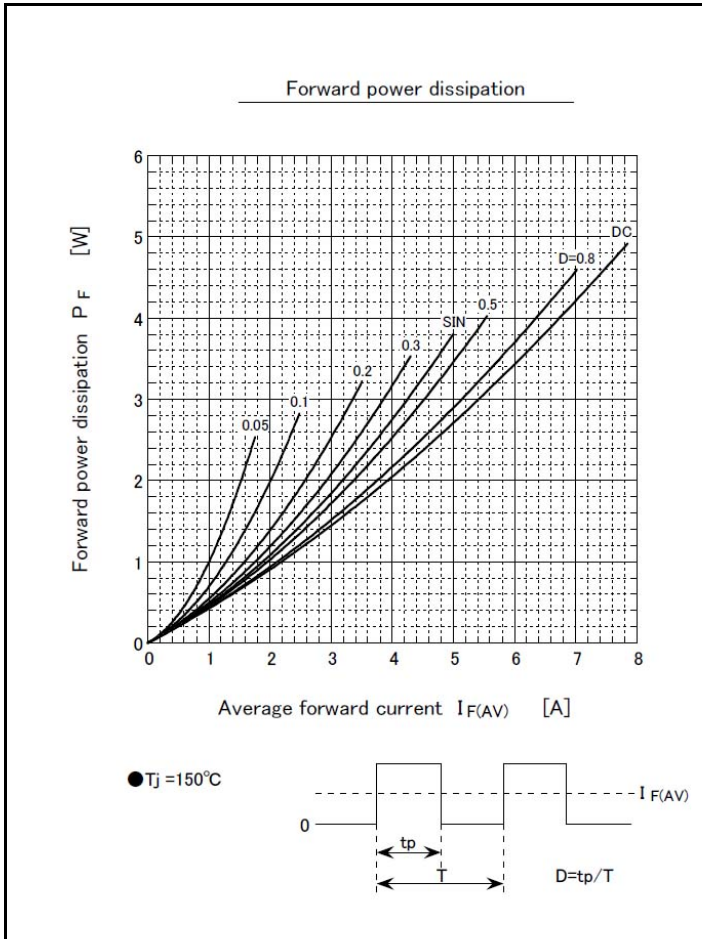
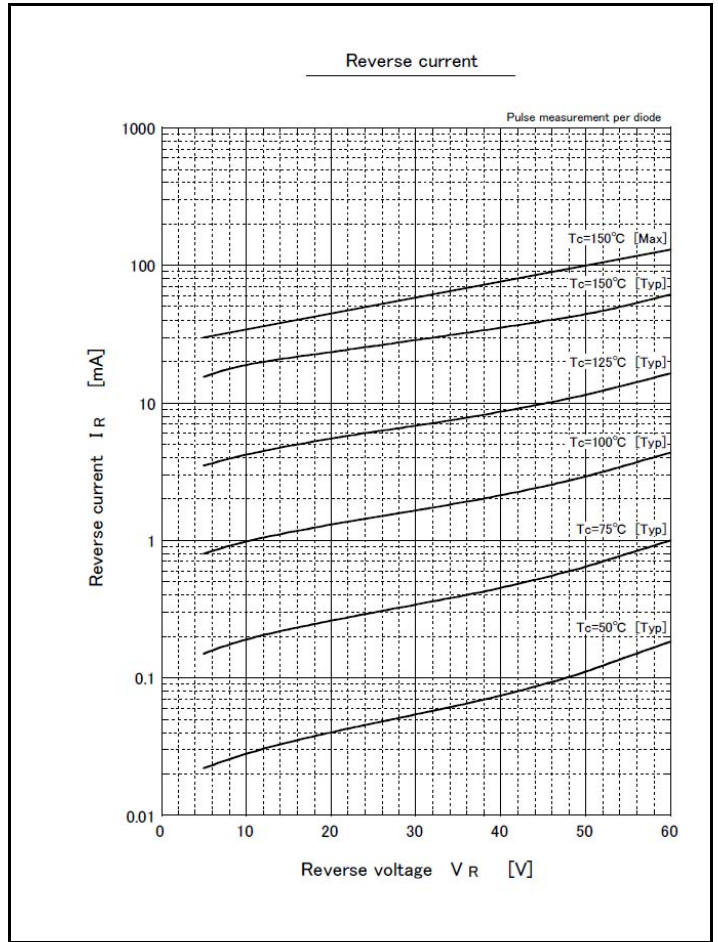
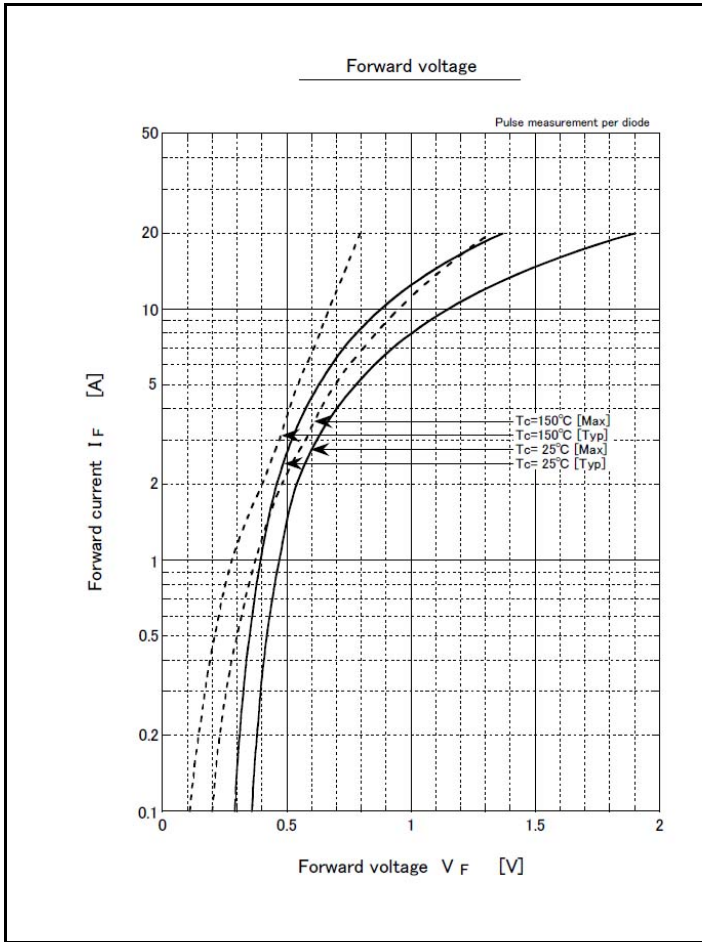
* :See the original Specifications

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

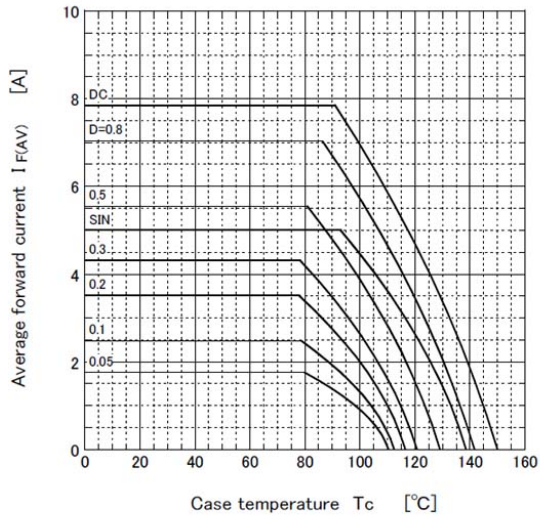
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V _F	I _F =2.5A, Pulse measurement, per diode			0.58	V
Reverse current	I _R	V _R =60V, Pulse measurement, per diode			2.5	mA
Total capacitance	C _t	f=1MHz, V _R =10V, per diode		130		pF
Thermal resistance	R _{th(j-c)}	Junction to case,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

※ :See the original Specifications

CHARACTERISTIC DIAGRAMS



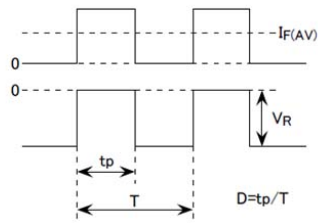
Derating curve



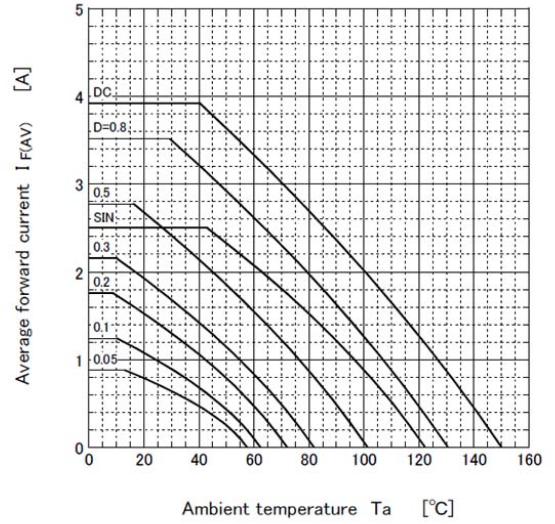
- $V_R = 30V$
R-load
With heatsink

● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μ m
Pattern area	65mm ²



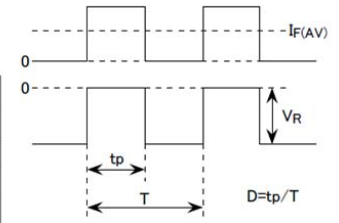
Derating curve



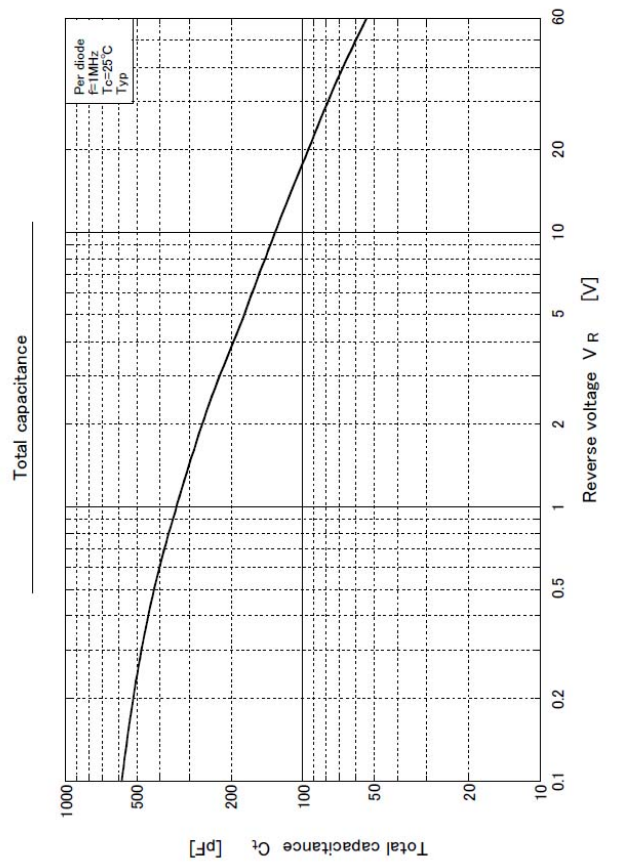
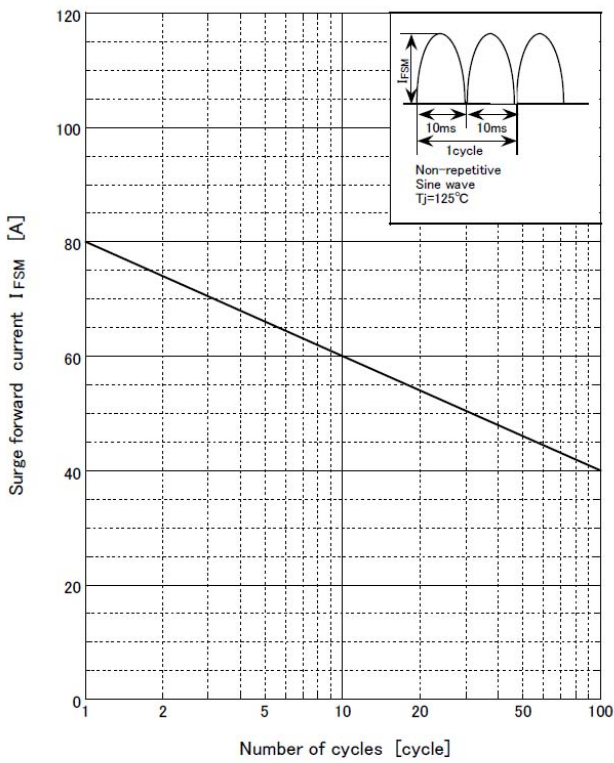
- $V_R = 20V$
R-load
Free in air

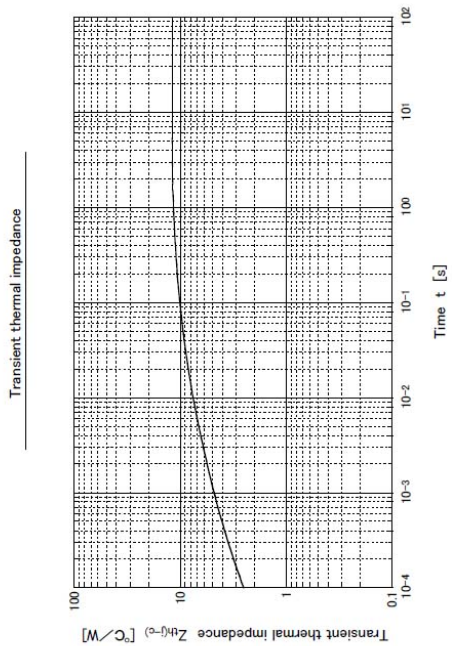
● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μ m
Pattern area	65mm ²



Surge forward current capability

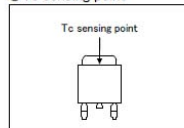




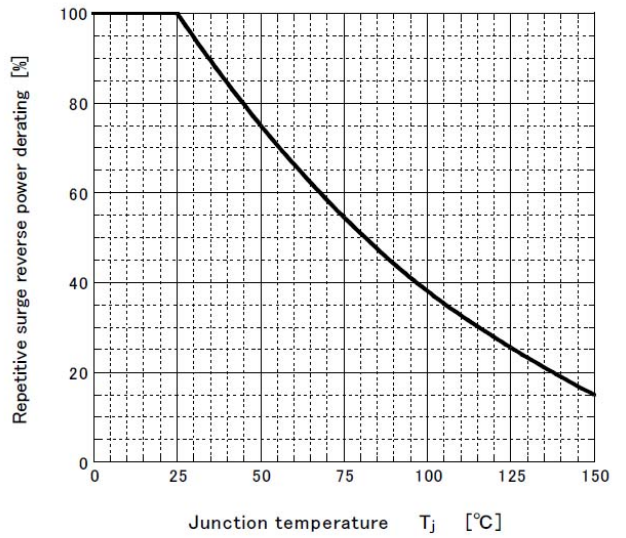
● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	69mm ²

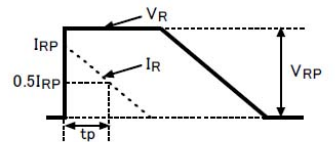
● T_c sensing point



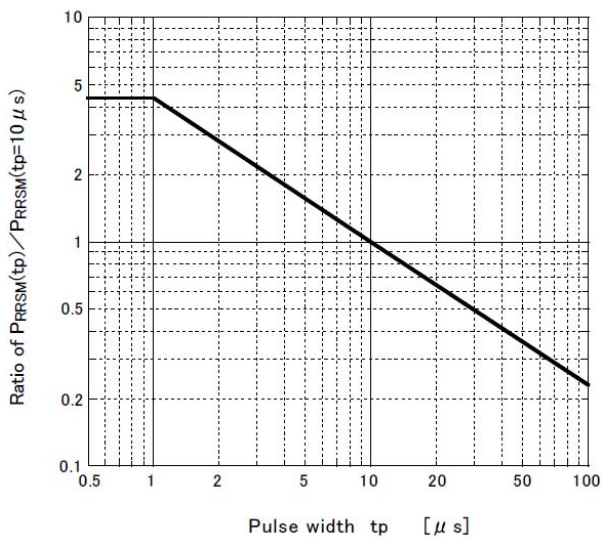
Repetitive surge reverse power derating vs Junction temperature



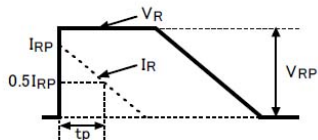
● $P_{RRSM} = I_{RP} \times V_{RP}$



Repetitive surge reverse power capability

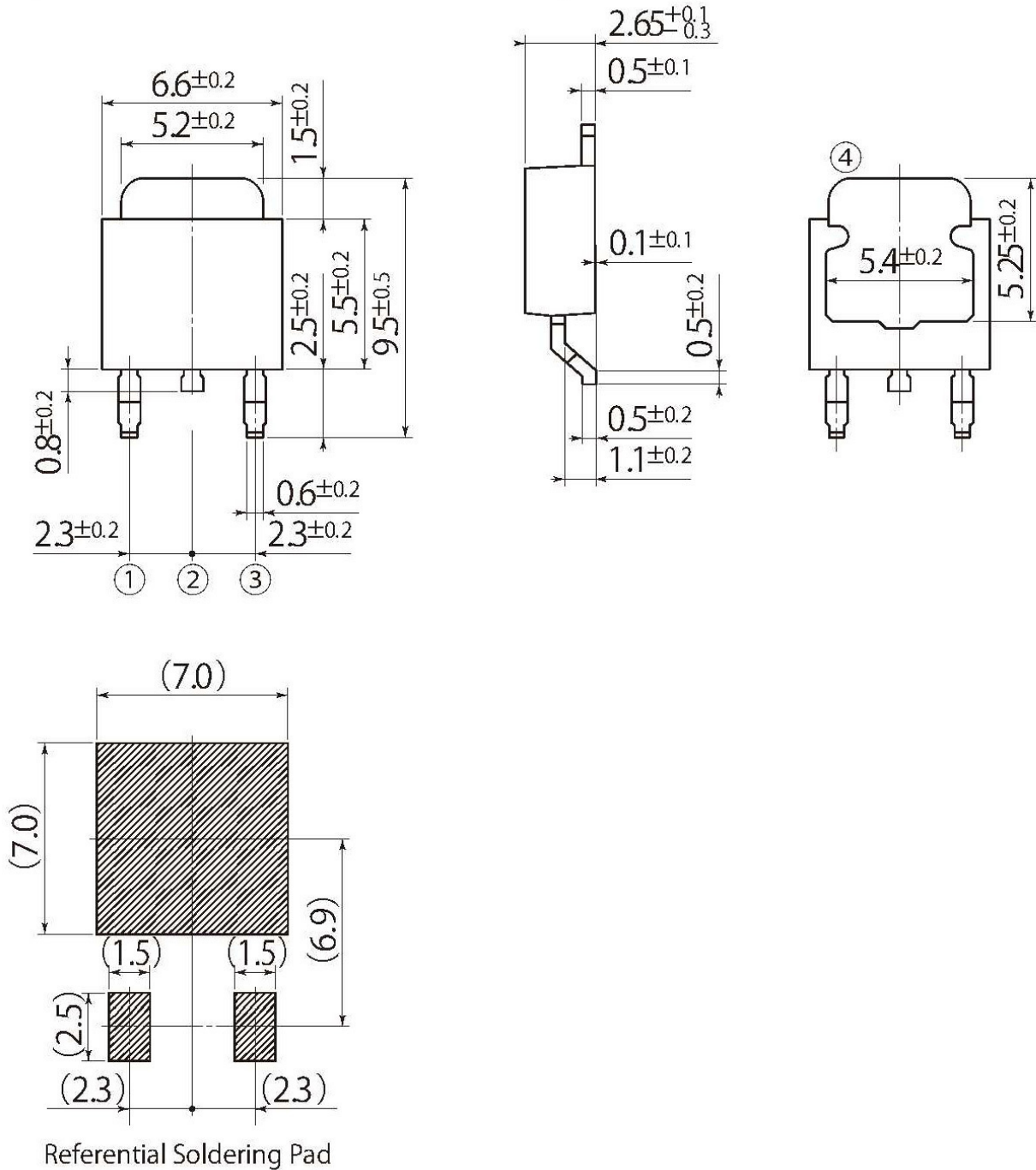


● $P_{RRSM} = I_{RP} \times V_{RP}$



G1

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



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

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