

Power MOSFETs

Recommended mounting pad for Renesas Power MOSFETs

Introduction

This document explains the recommended mounting pad for Renesas Power MOSFETs.

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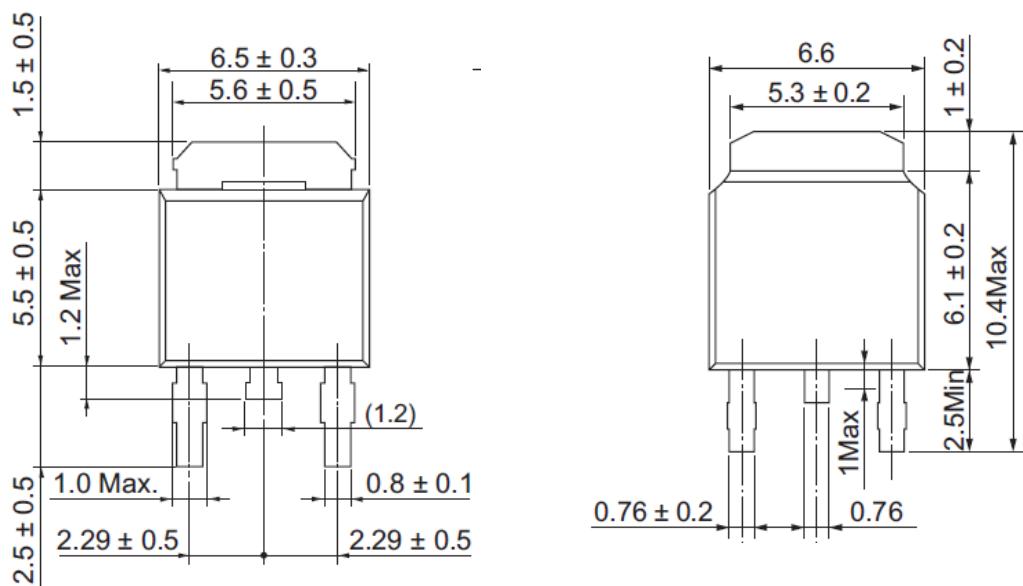
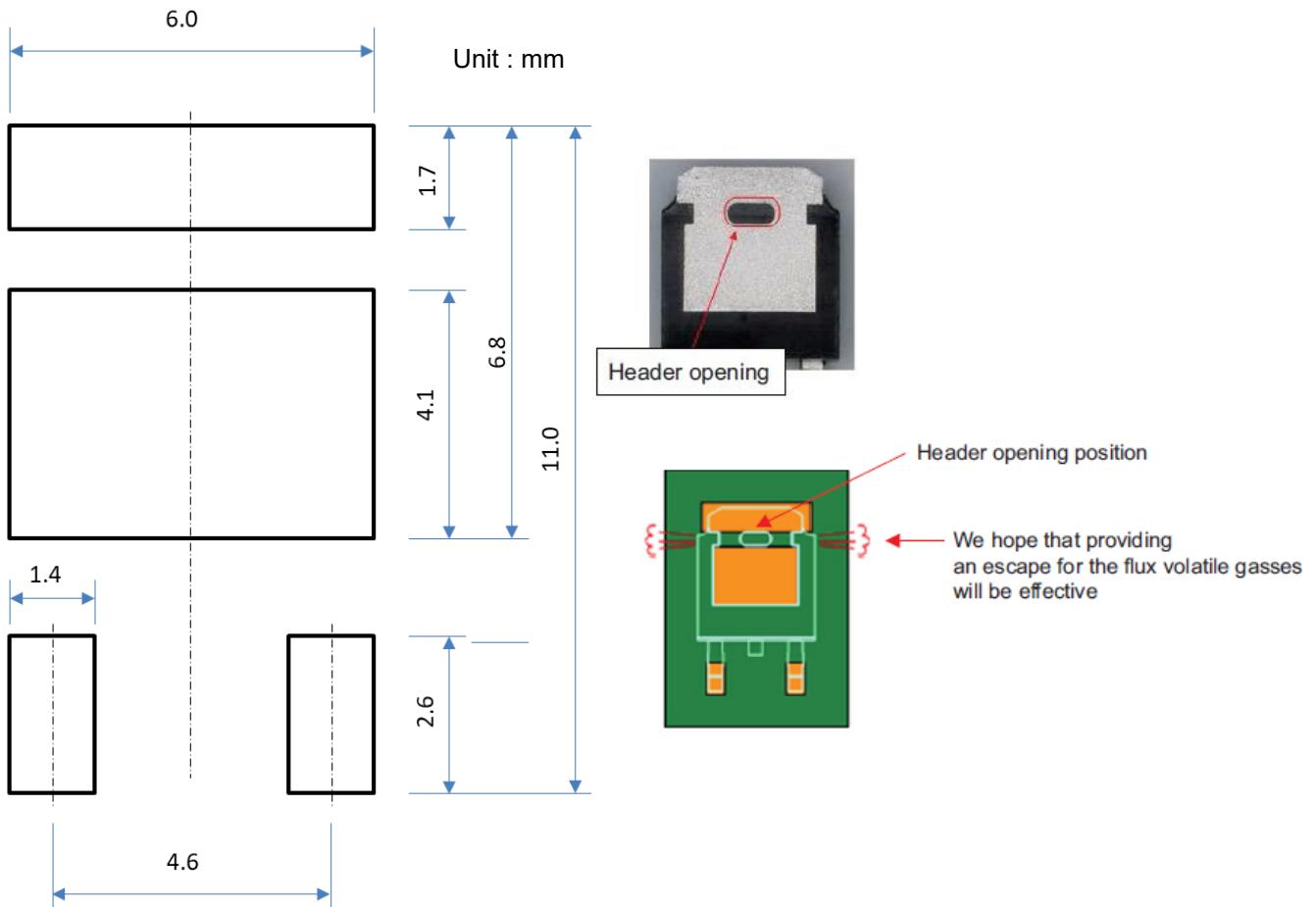
1. Package line-up

Standard Package	Renesas Package	Package size [mm]	Ref. page
TO-252	DPAK, MP-3A	6.6 x 10.4	Page 3
TO-252	MP-3ZK, ZP	6.5 x 9.5	Page 4
SON-8 5x6	HSON	5.0 x 6.0	Page 5
SON-8 5x6 Dual	HSON Dual	5.0 x 6.0	Page 5
SON-8 3.3x3.3	HWSON-8	3.3 x 3.3	Page 6
TO-263/D2PAK	LDPAK(S)	10.2 x 13.0	Page 6
LFPAK56	LFPAK	4.9 x 5.25	Page 7
TO-263/D2PAK	MP-25ZK, ZP	10.0 x 15.25	Page 7
TO-263-7	MP-25ZT	10.0 x 14.85	Page 8
TO-263-7	MP-25ZU	10.0 x 11.85	Page 8
SOP-8	SOP-8	4.9 x 6.1	Page 9
SON-8 5x6	WPAK	5.1 x 6.1	Page 9
SON-8 3.3x3.3	μSO8-FL	3.3 x 3.3	Page 10
SON-8 5x6	SO8-FL	5.15 x 6.1	Page 10
TOLL	TOLL	9.8 x 11.68	Page 11
TOLG	TOLG	9.9 x 11.7	Page 11
TOLT	TOLT	9.9 x 15.0	Page 12

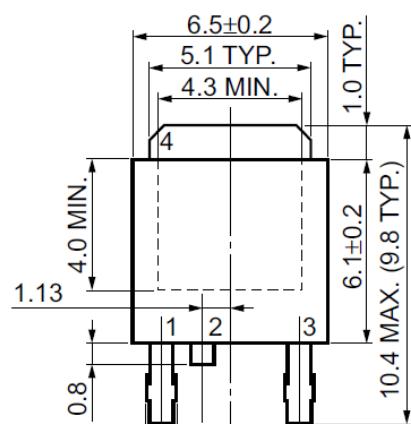
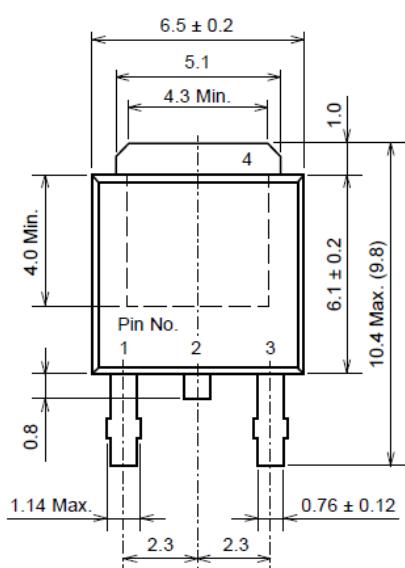
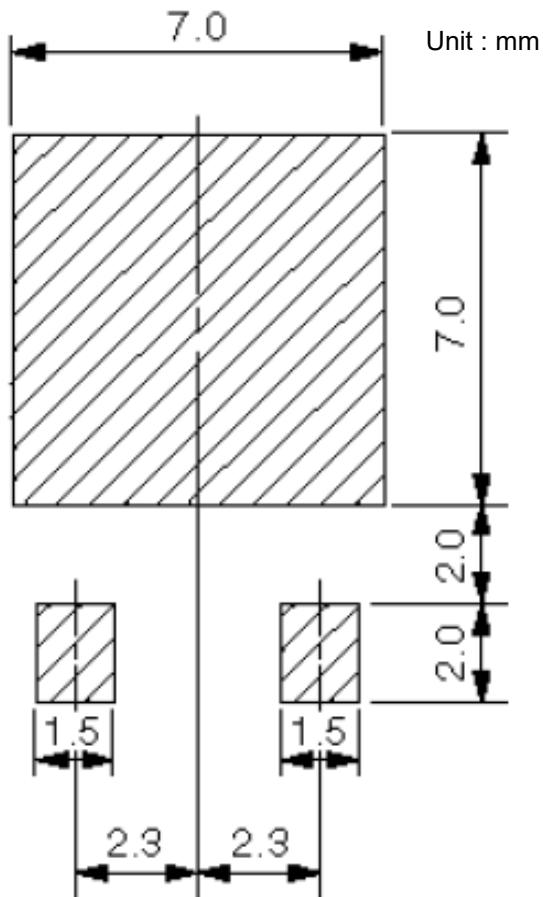
In actual PCB design, please optimize by consideration of mounting density, mountability, and dimensional tolerances, and other factors.

2. Mounting pad dimensions

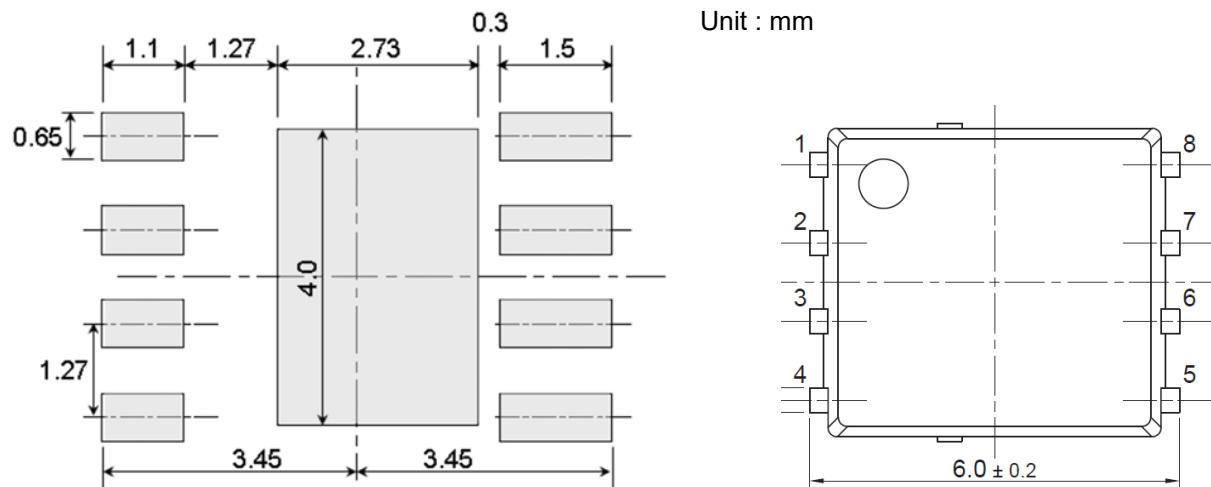
2.1 DPAK(S), MP-3A



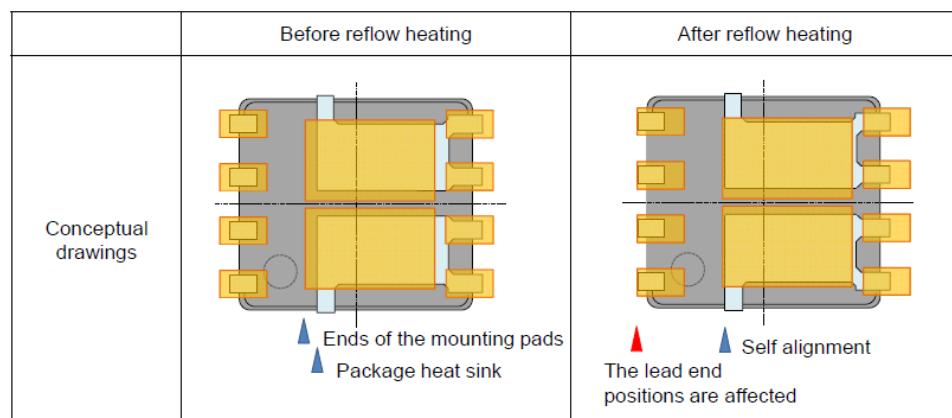
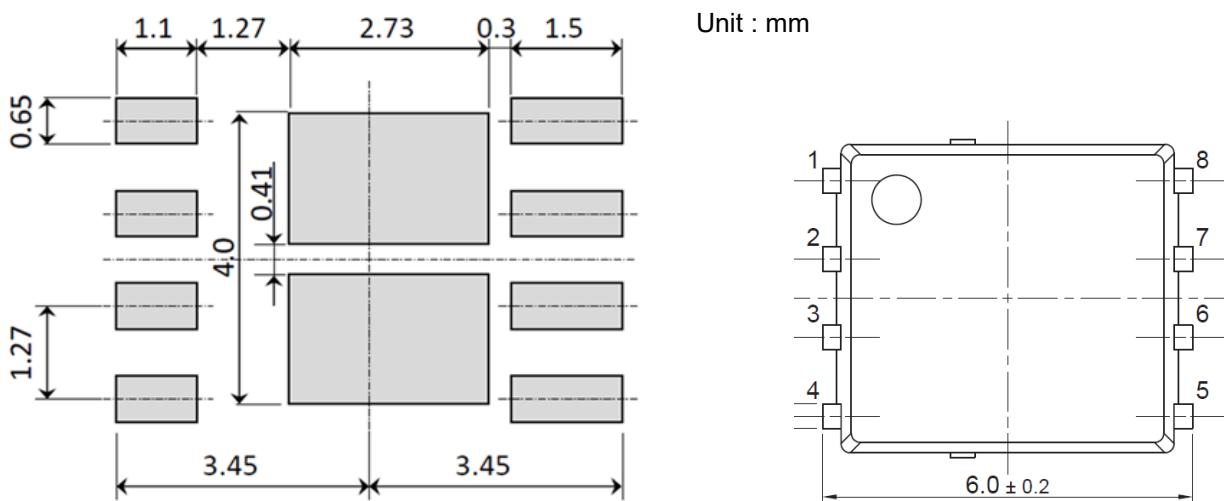
2.2 MP-3ZK, ZP



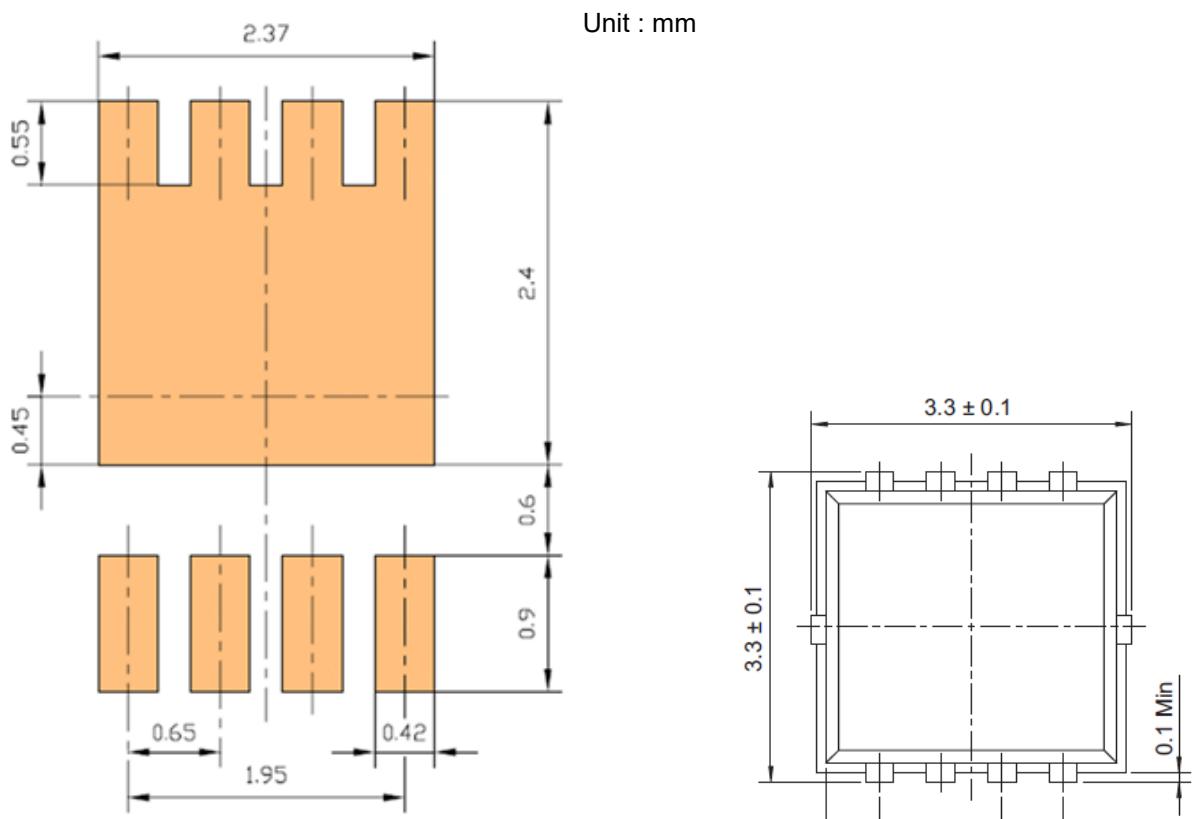
2.3 HSON



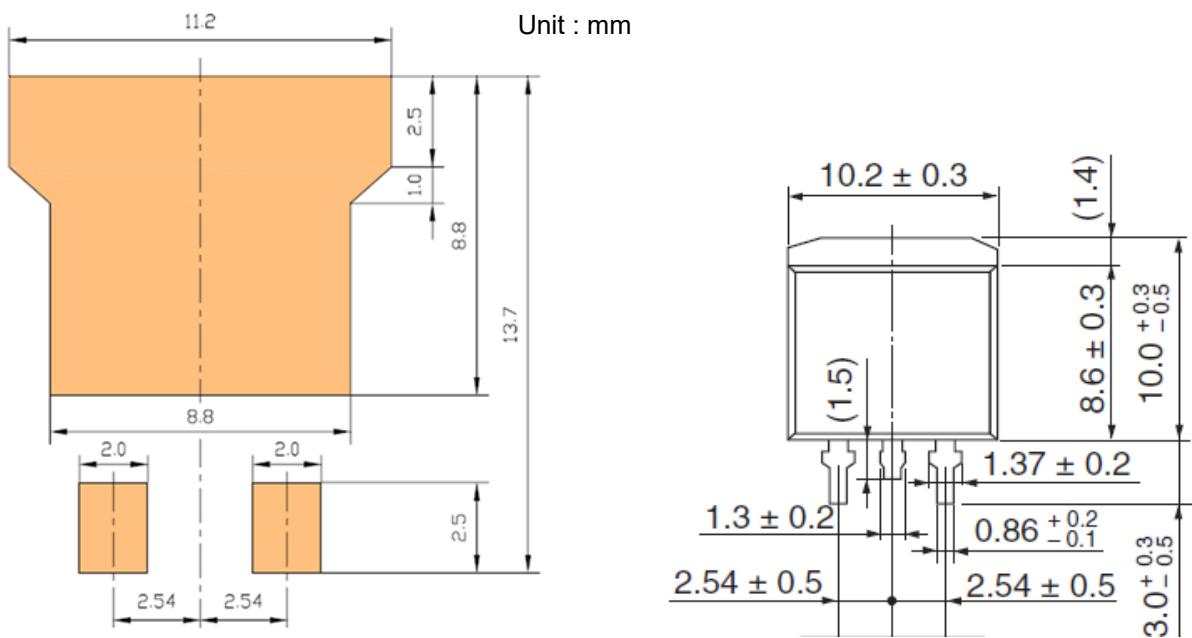
2.4 HSON Dual



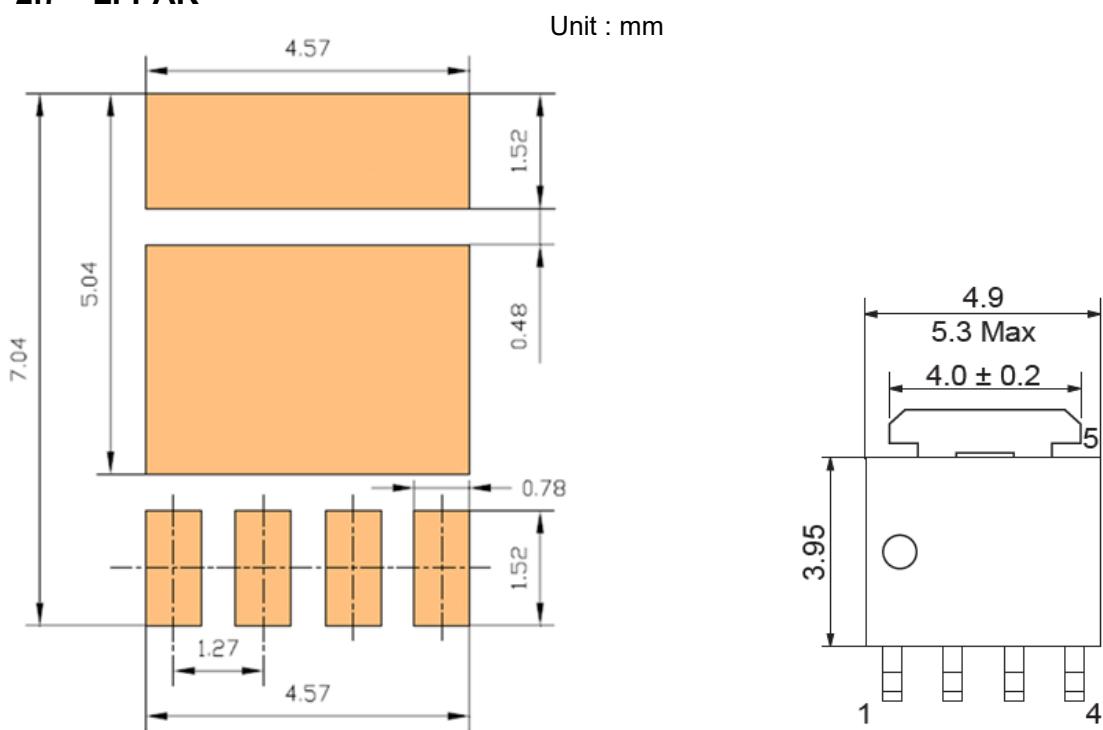
2.5 HWSON-8



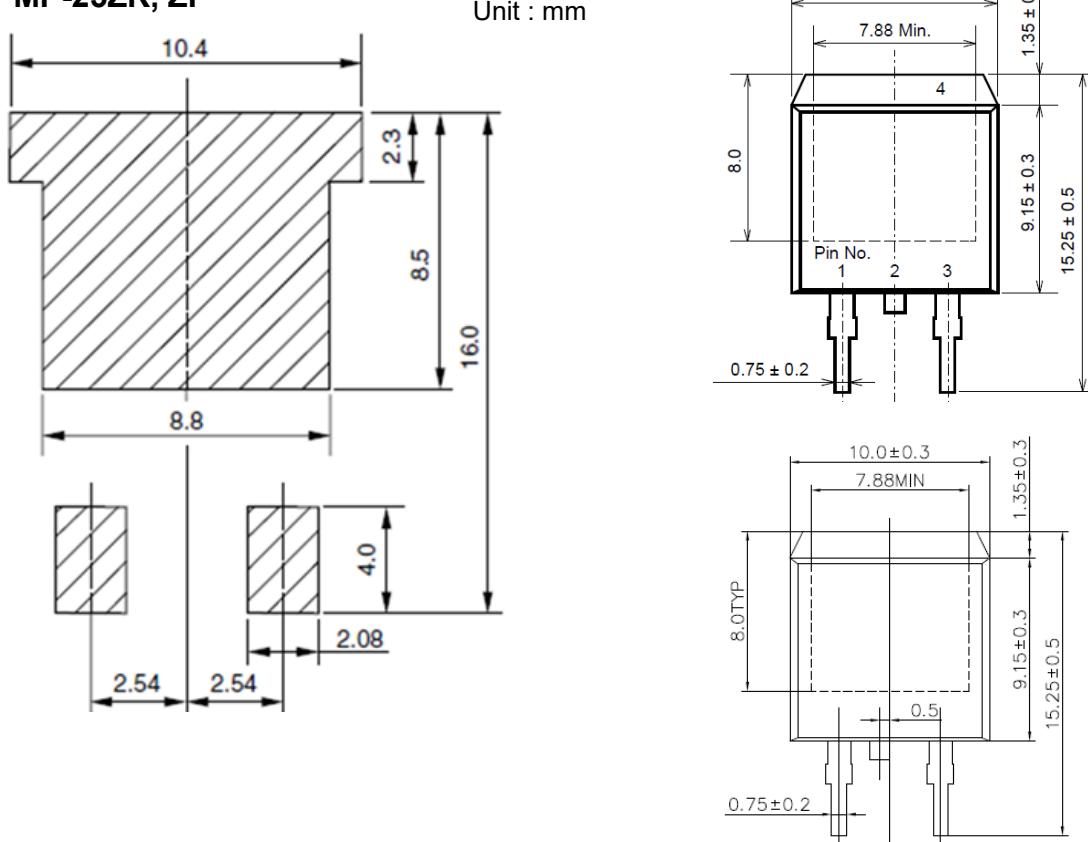
2.6 LDPAK(S)



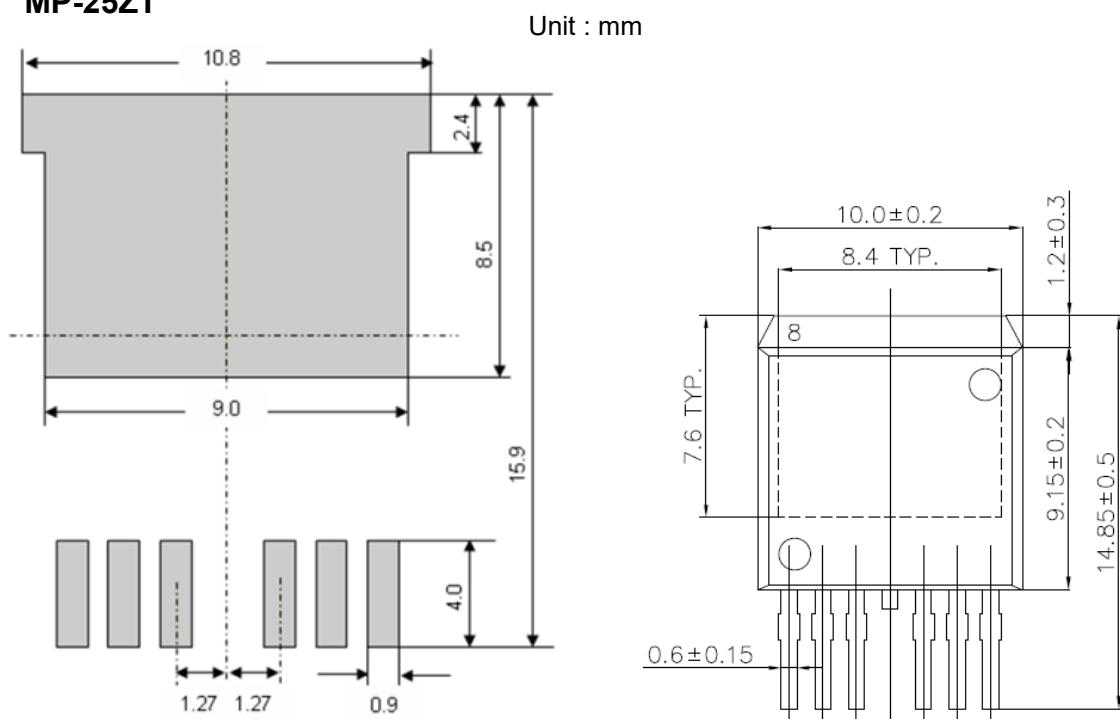
2.7 LFPAK



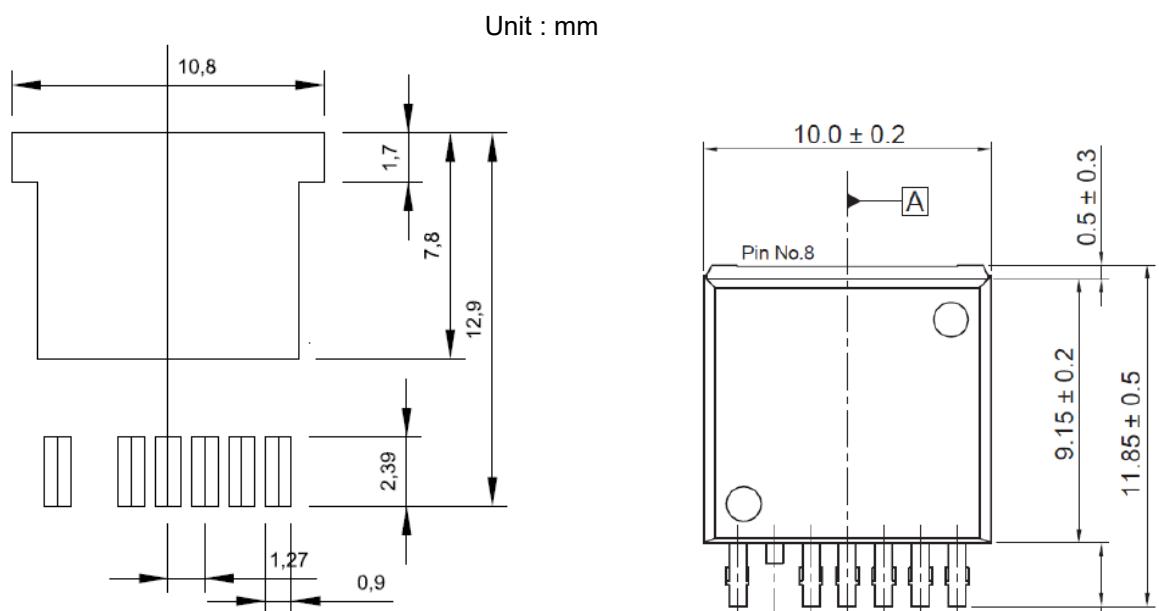
2.8 MP-25ZK, ZP



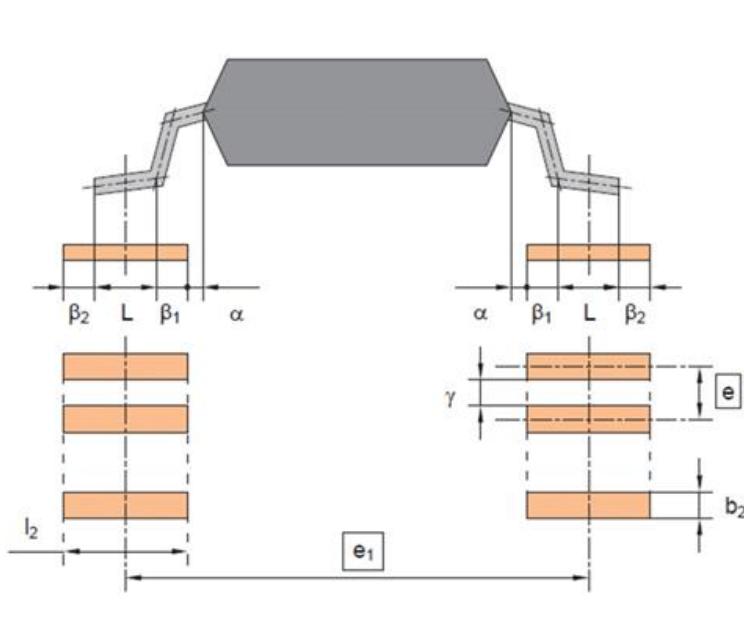
2.9 MP-25ZT



2.10 MP-25ZU



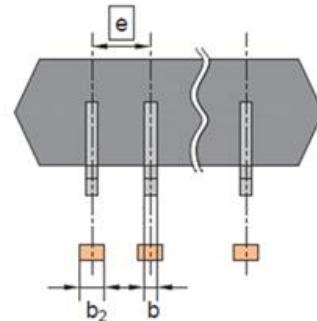
2.11 SOP-8



- Type of package width e_1 :

Type 1	225 mil (5.72)
Type 2	300 mil (7.62)
Type 3	375 mil (9.53)
Type 4	450 mil (11.43)
Type 5	525 mil (13.34)
Type 6	600 mil (15.24)

• The constant parts are all the same from type 1 to 6.



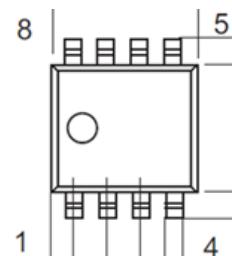
$$l_2 = L + \beta_1 + \beta_2$$

$$b \leq b_2 \leq e - \gamma$$

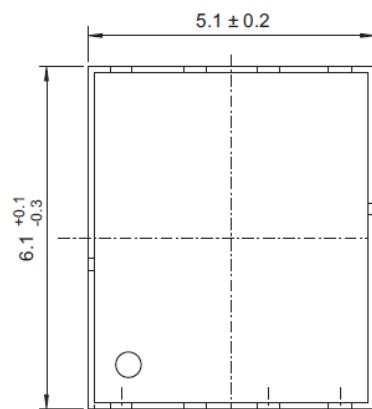
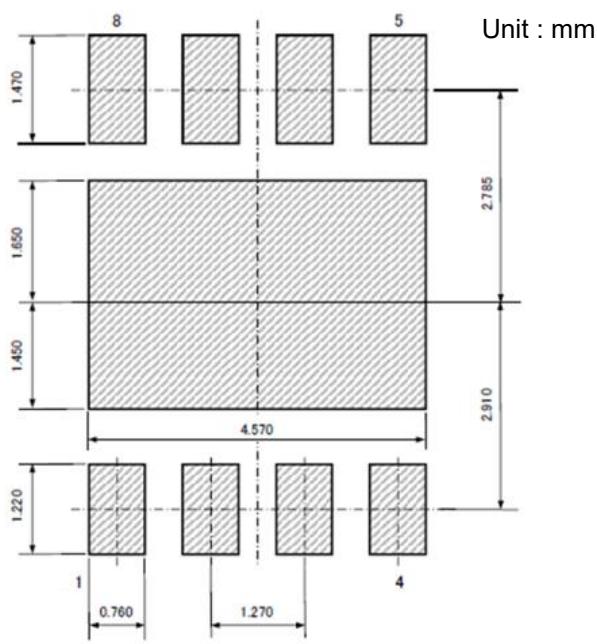
l_2 and b_2 can get by following formula and value e and b from package drawing figure and below parameter table.

Dimension parameter		(Unit: mm)
e	1.27	
α	Over 0.20	
β_1	0.20 to 0.50	
β_2	0.20	
γ	0.30	

(Reference values based on the former EIAJ ED-7402-1 standard)

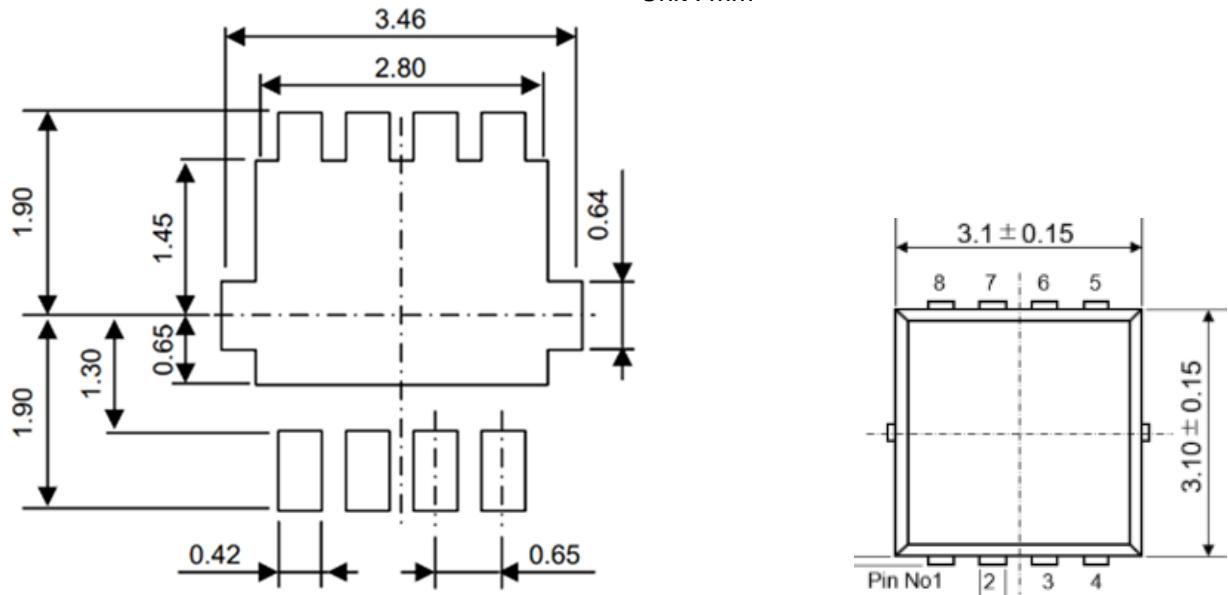


2.12 WPAK



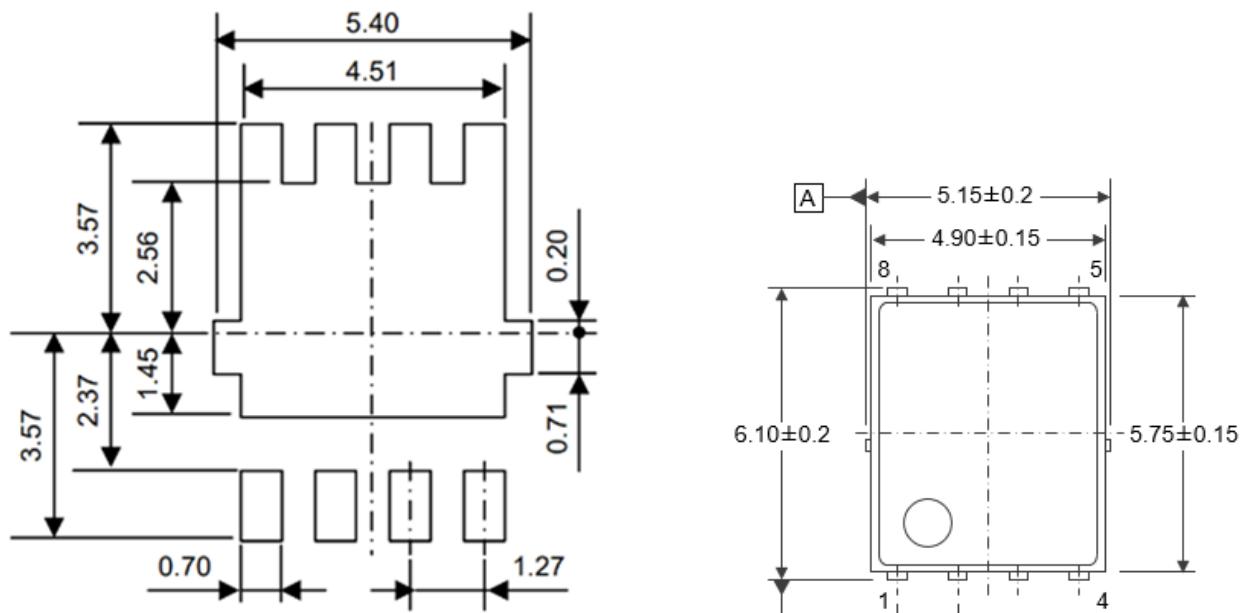
2.13 μSO8-FL

Unit : mm

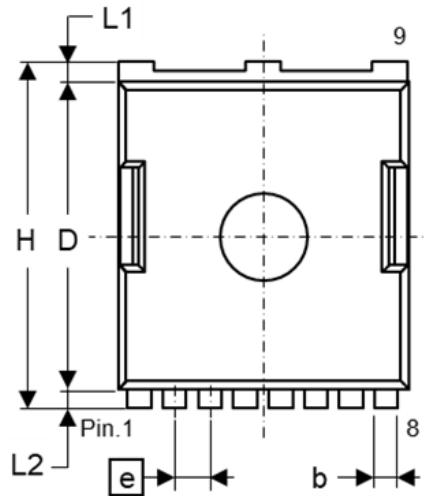
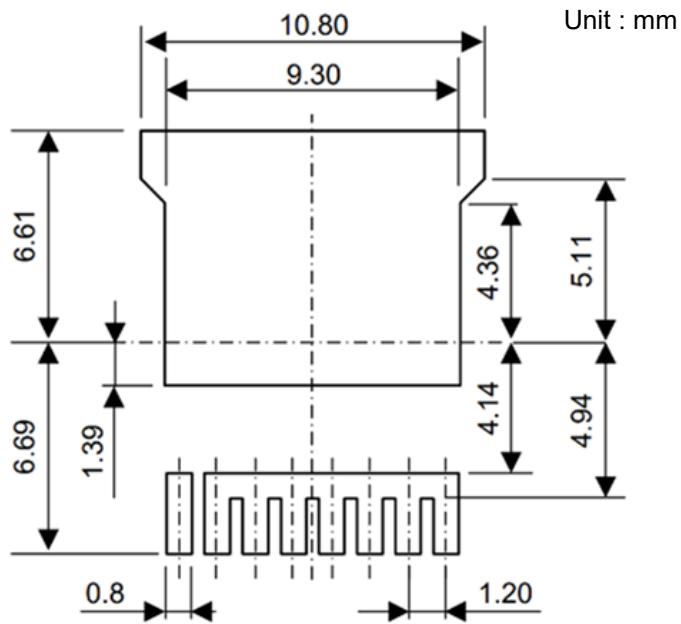


2.14 SO8-FL

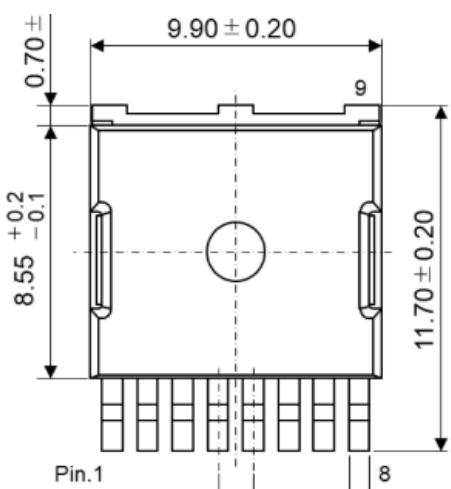
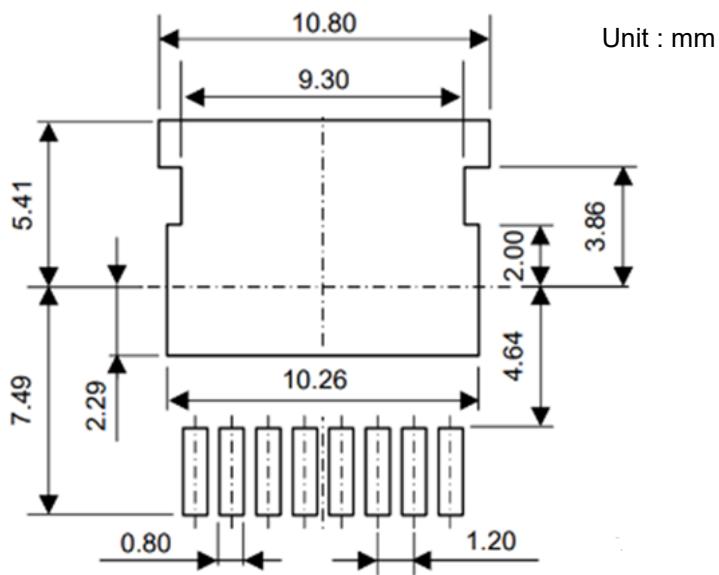
Unit : mm



2.15 TOLL

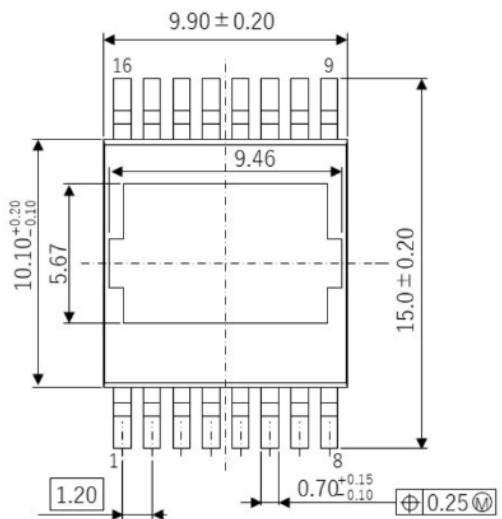
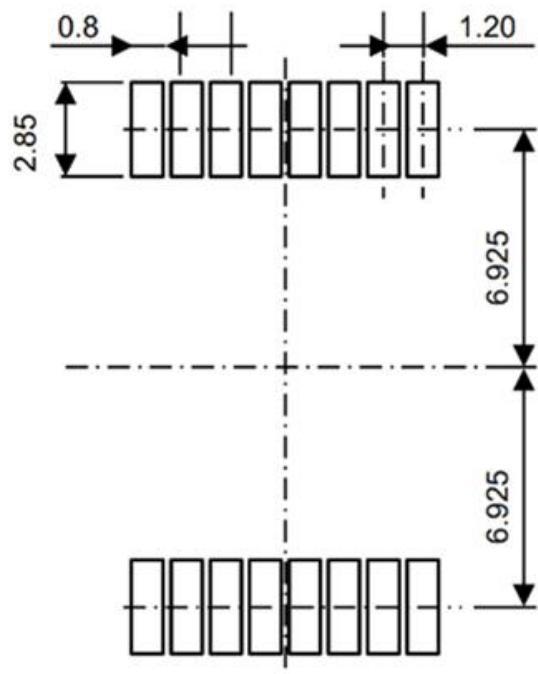


2.16 TOLG



2.17 TOLT

Unit : mm



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