



PCP1208

Bipolar Transistor 200V, 0.7A Low $V_{CE(sat)}$ NPN Single PCP

ON Semiconductor®

<http://onsemi.com>

Features

- $V_{CEO}=200V$, $I_C=0.7A$
- High allowable power dissipation
- Halogen free compliance
- Low collector-to-emitter saturation voltage $V_{CE(sat)}=0.115V$ (typ.)@ $I_C=0.35A$
- High-speed switching $t_f=70ns$ (typ.)@ $I_C=0.3A$

Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

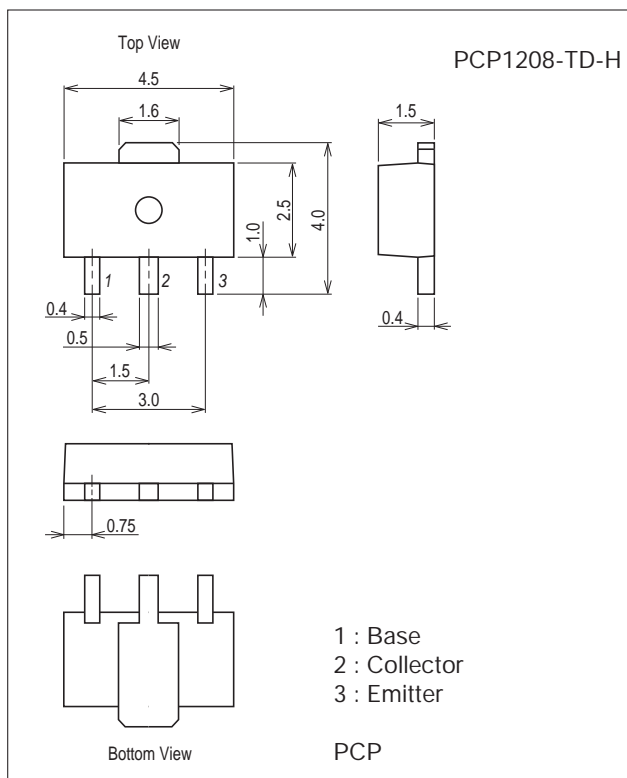
| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|---|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | 220 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | 200 | V |
| Emitter-to-Base Voltage | V_{EBO} | | 8 | V |
| Collector Current | I_C | | 0.7 | A |
| Collector Current (Pulse) | I_{CP} | | 2 | A |
| Base Current | I_B | | 140 | mA |
| Collector Dissipation | PC | When mounted on ceramic substrate (450mm ² ×0.8mm) | 1.3 | W |
| | | $T_c=25^\circ C$ | 3.5 | W |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

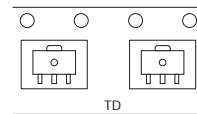
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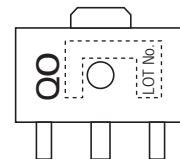
Ordering & Package Information

| Device | Package | Shipping | note |
|--------------|-----------------------------------|--------------------|--------------------------------|
| PCP1208-TD-H | PCP (SC-62, SOT-89, TO-243) | 1,000 pcs./reel | Pb Free and Halogen Free |

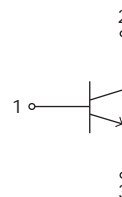
Packing Type: TD



Marking



Electrical Connection

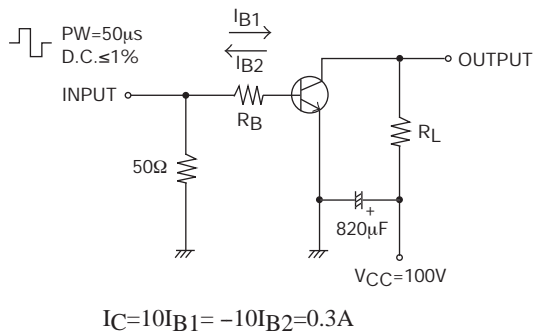


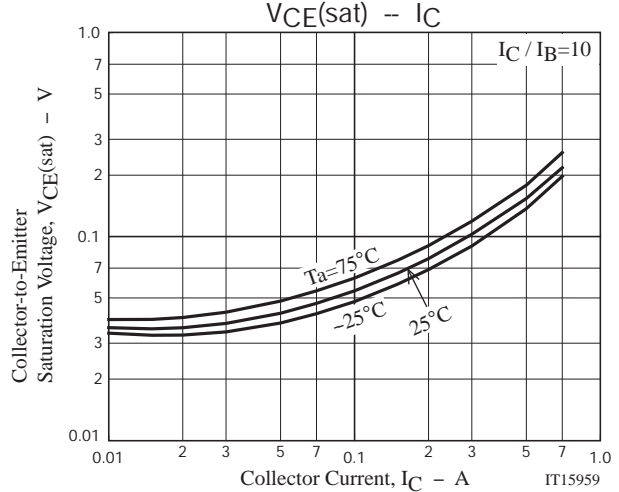
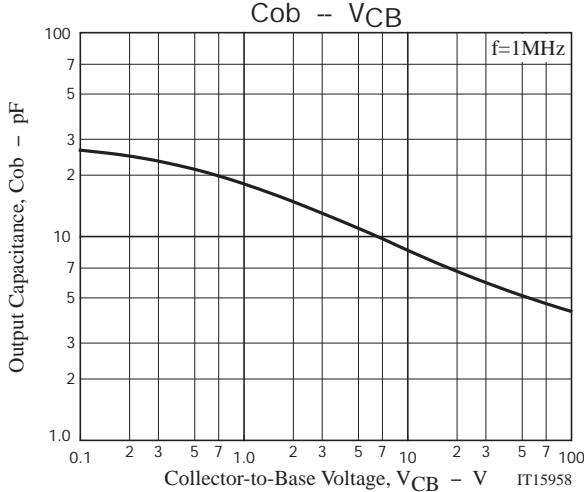
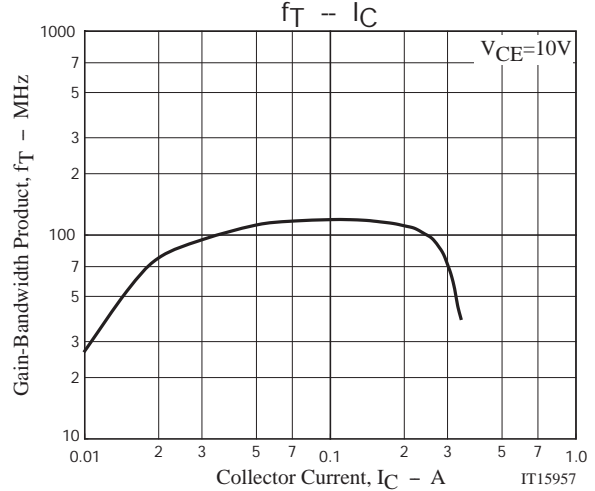
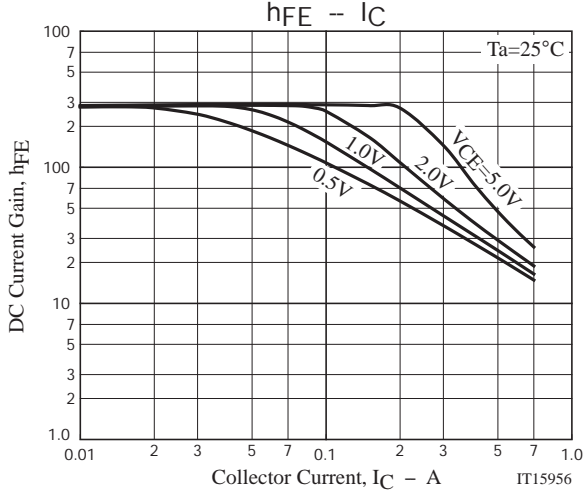
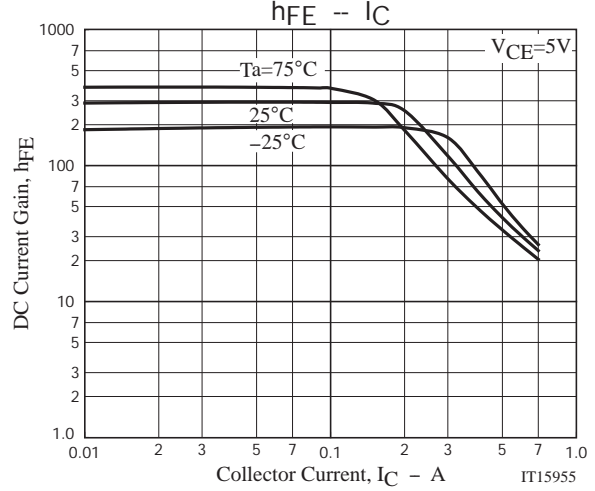
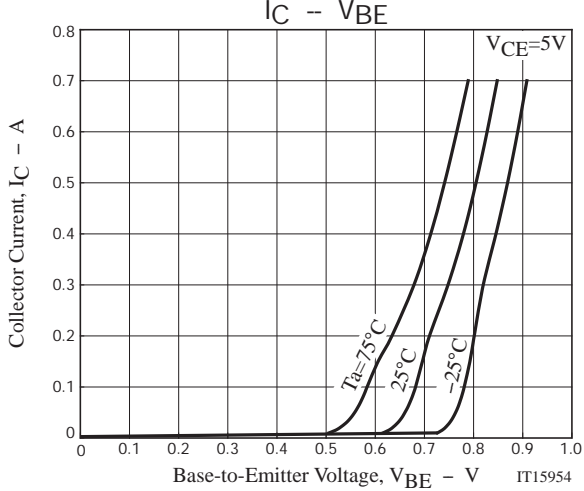
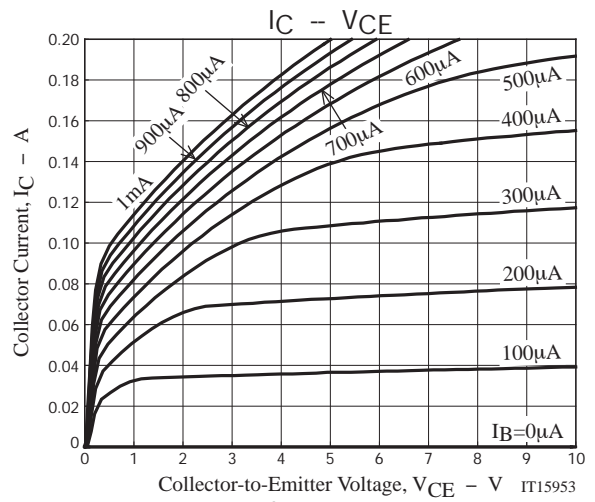
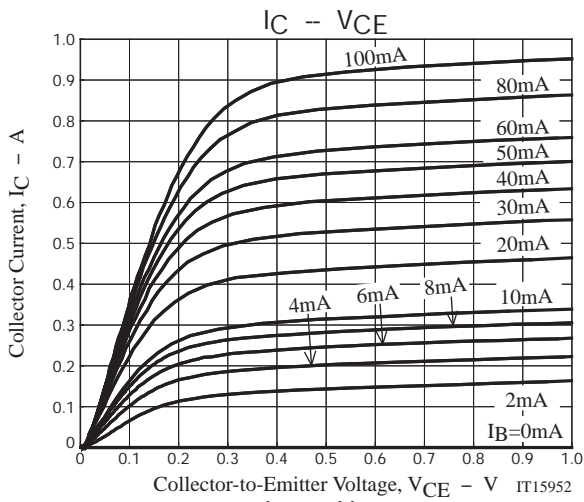
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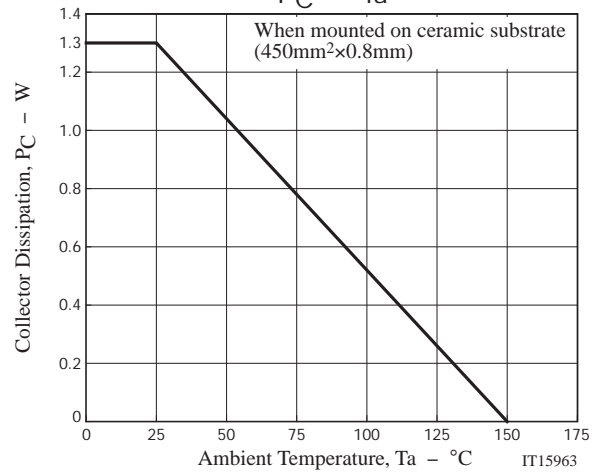
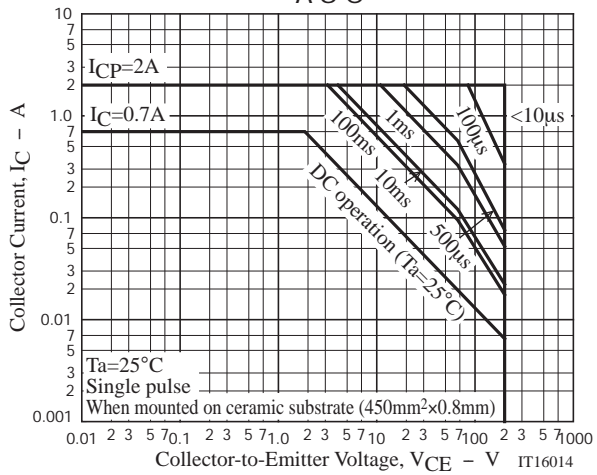
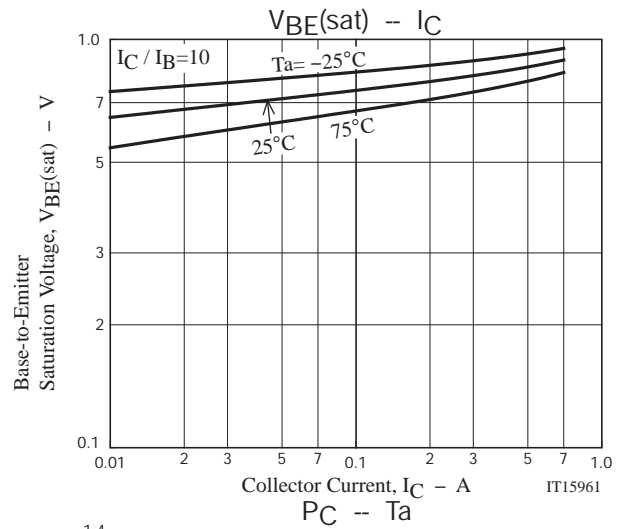
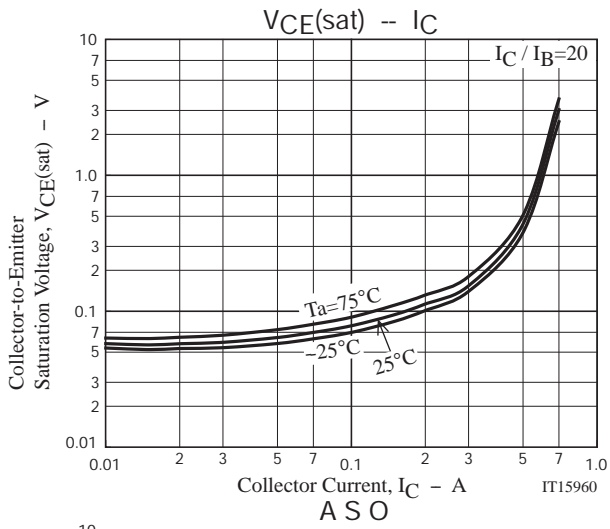
Electrical Characteristics at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|---------------------------------------|---------|------|-----|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=100\text{V}, I_E=0\text{A}$ | | | 1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0\text{A}$ | | | 1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=5\text{V}, I_C=100\text{mA}$ | 200 | | 560 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=10\text{V}, I_C=100\text{mA}$ | | 120 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=10\text{V}, f=1\text{MHz}$ | | 9 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=0.35\text{A}, I_B=35\text{mA}$ | | 115 | 200 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=0.35\text{A}, I_B=35\text{mA}$ | | 0.82 | 1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=10\mu\text{A}, I_E=0\text{A}$ | 220 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, R_{BE}=\infty$ | 200 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}, I_C=0\text{A}$ | 8 | | | V |
| Turn-On Time | t_{on} | See specified Test Circuit. | | 50 | | ns |
| Storage Time | t_{stg} | | | 2 | | μs |
| Fall Time | t_f | | | 70 | | ns |

Switching Time Test Circuit







Bag Packing Specification

PCP1208-TD-H

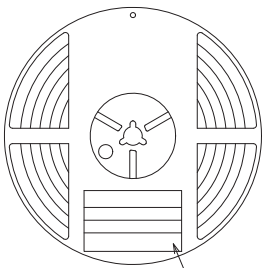
1. Packing Format

| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) | | | Packing format | |
|--------------|-------------------|---|-----------|-----------|---|--|
| | | Reel | Inner box | Outer box | Inner BOX (C-1) | Outer BOX (A-7) |
| PCP | PCP | 1,000 | 4,000 | 24,000 | 4 reels contained Dimensions:mm (external) 183×72×185 | 6 inner boxes contained Dimensions:mm (external) 440×195×210 |

Reel label, Inner box label
(unit : mm)

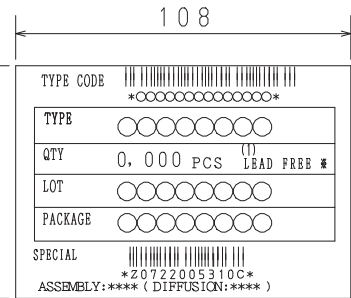
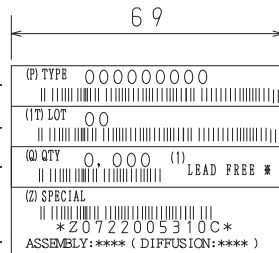
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



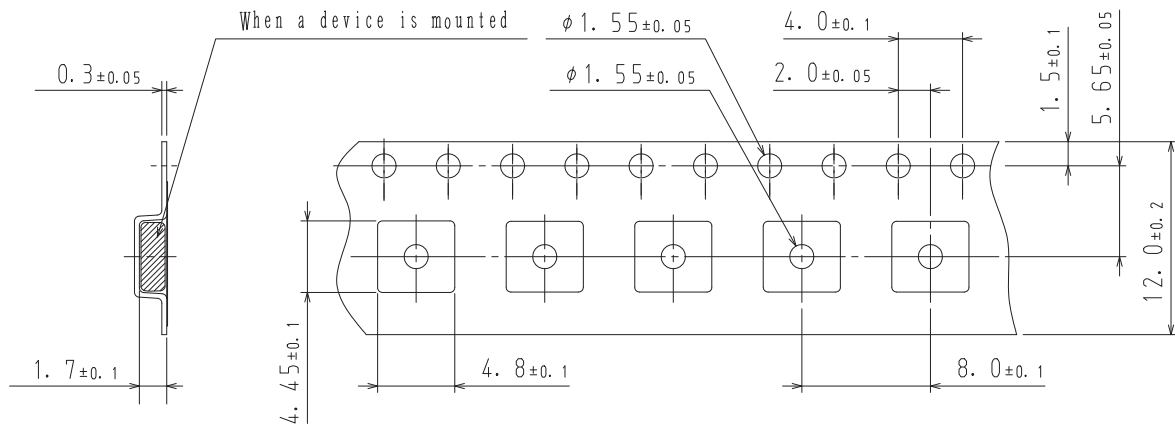
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction

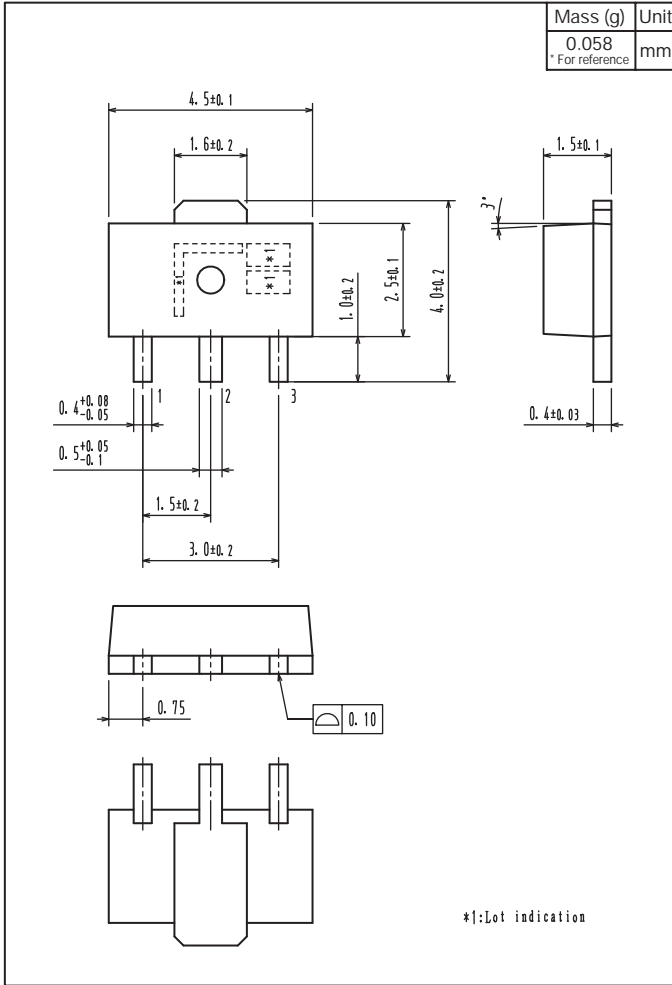


Those with pin 1 index on the feed hole side.....TD

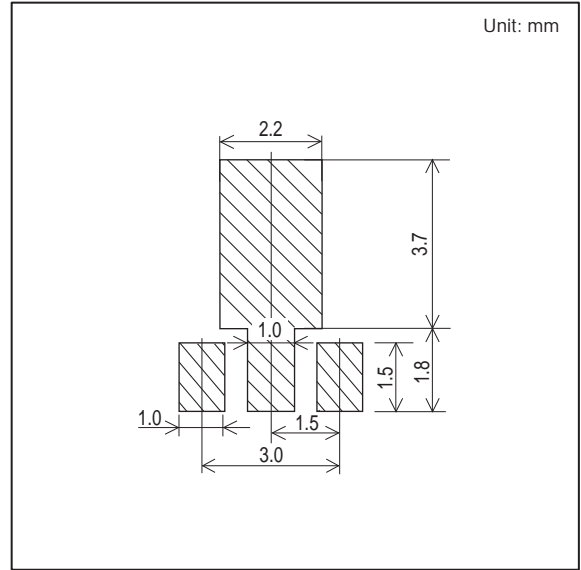
PCP1208

Outline Drawing

PCP1208-TD-H



Land Pattern Example



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