



# 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  $T_a=25^\circ C$ 

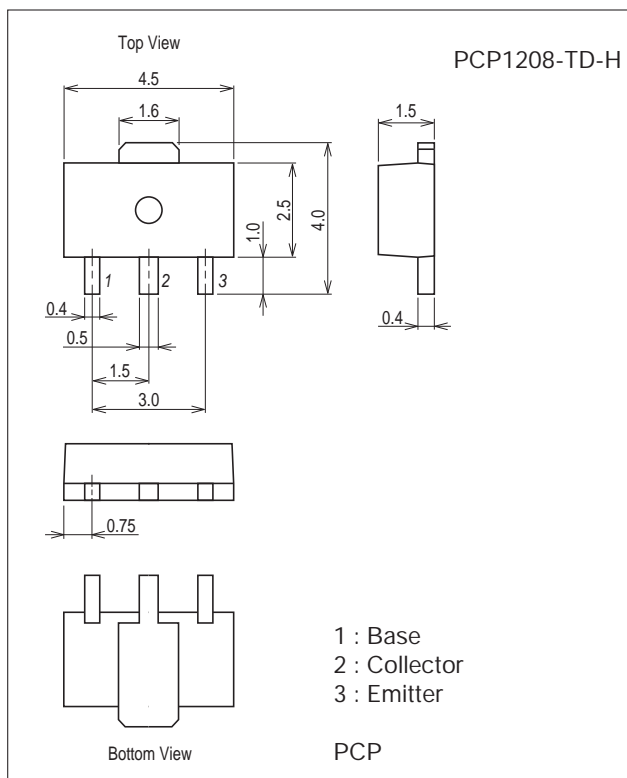
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		220	V
Collector-to-Emitter Voltage	$V_{CEO}$		200	V
Emitter-to-Base Voltage	$V_{EBO}$		8	V
Collector Current	$I_C$		0.7	A
Collector Current (Pulse)	$I_{CP}$		2	A
Base Current	$I_B$		140	mA
Collector Dissipation	PC	When mounted on ceramic substrate (450mm <sup>2</sup> ×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)

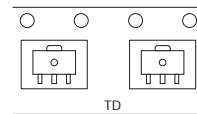
7008B-003



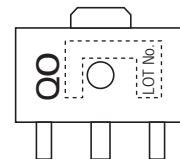
### Ordering & Package Information

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

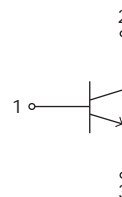
### Packing Type: TD



### Marking



### Electrical Connection

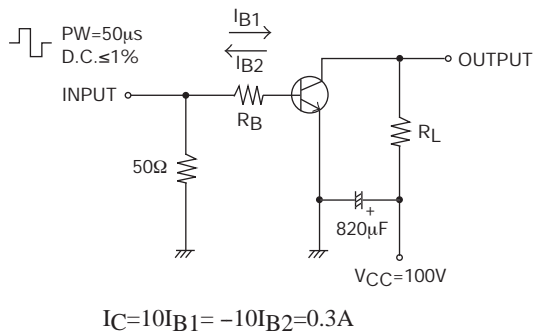


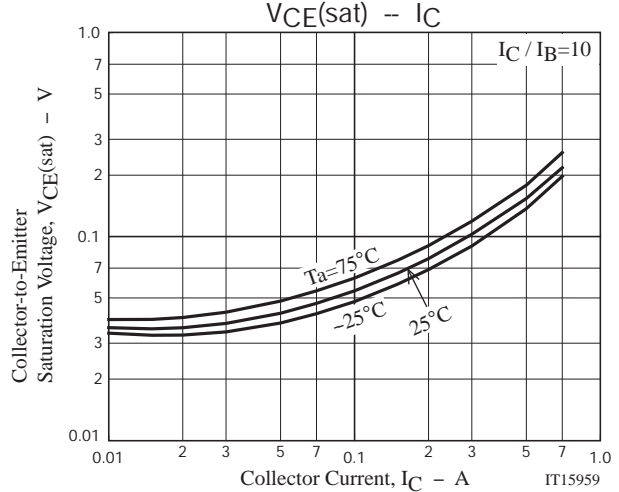
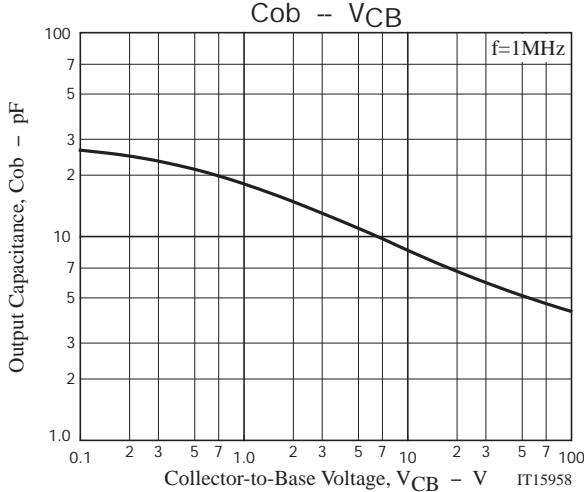
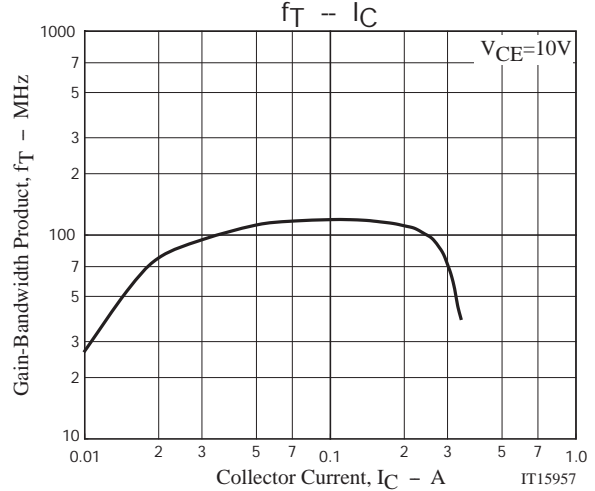
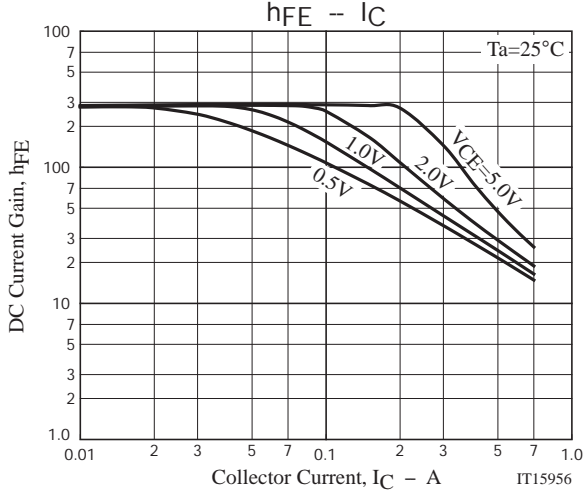
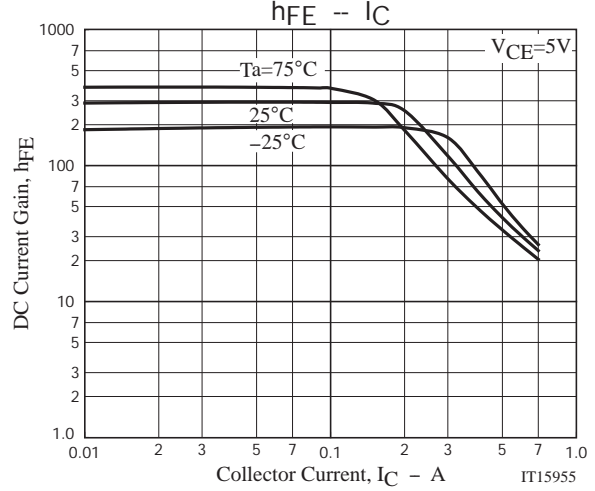
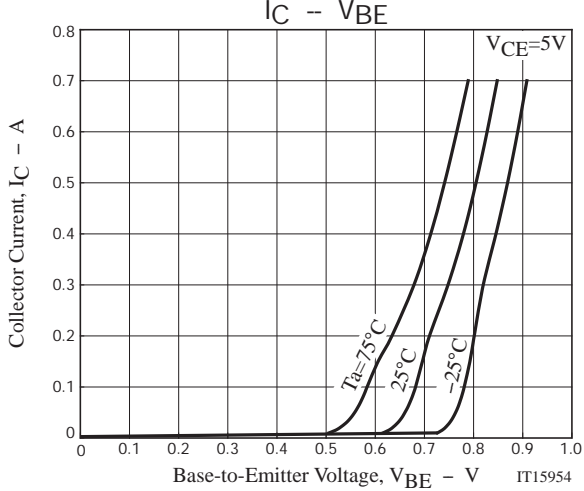
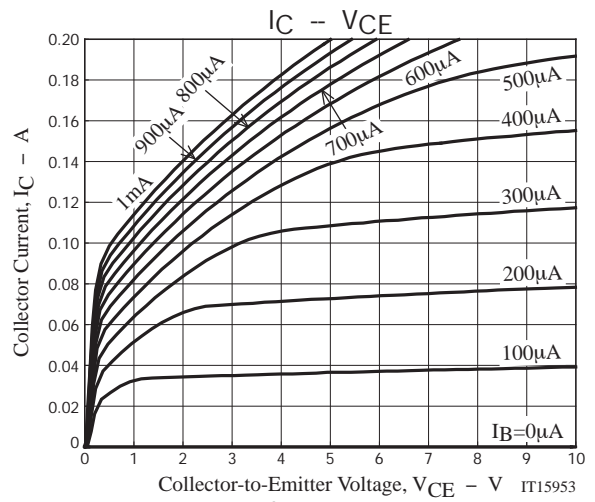
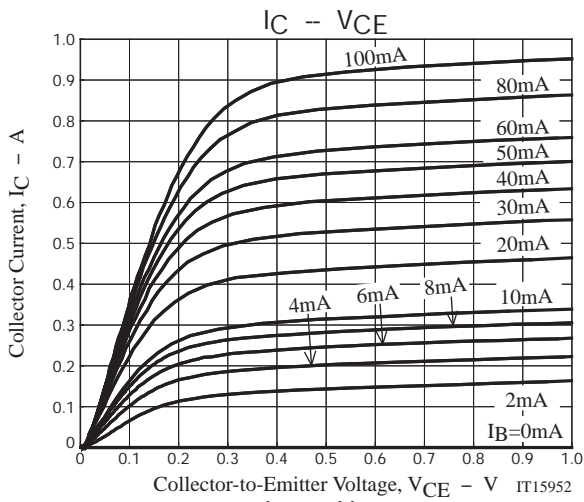
# PCP1208

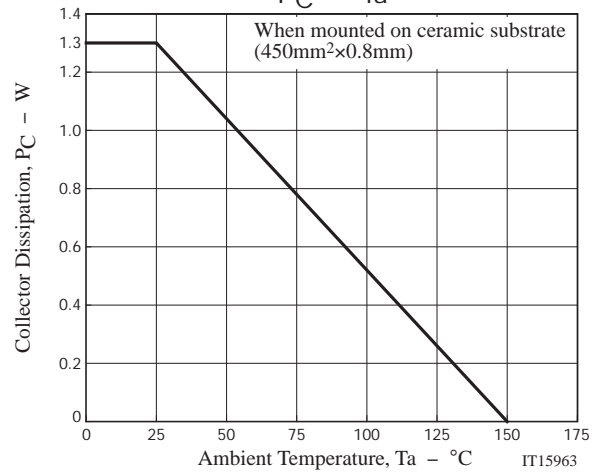
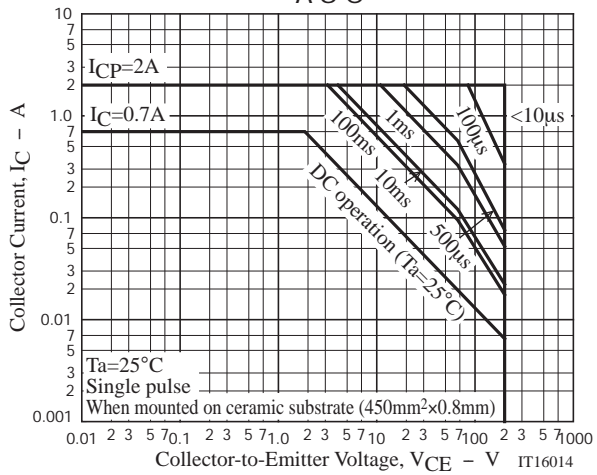
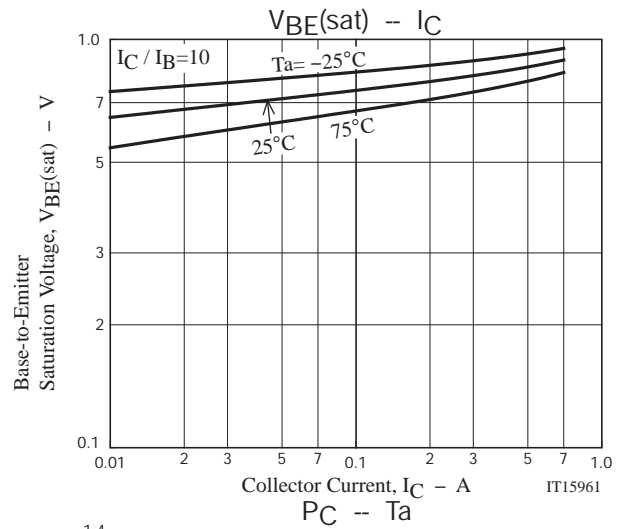
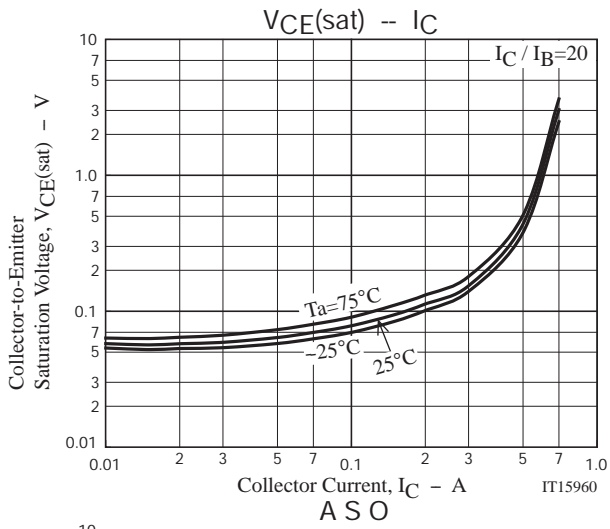
## Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_E=0\text{A}$			1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0\text{A}$			1	$\mu\text{A}$
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		$\mu\text{s}$
Fall Time	$t_f$			70		ns

## Switching Time Test Circuit







Bag Packing Specification

PCP1208-TD-H

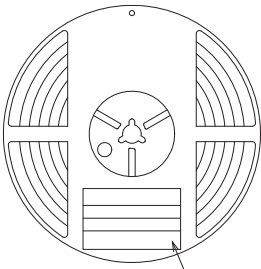
1. Packing Format

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)

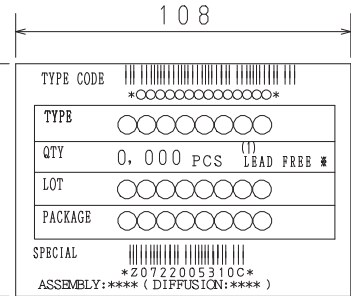
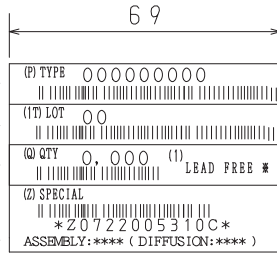
Outer box label  
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No.  
LOT No.  
Quantity  
Origin



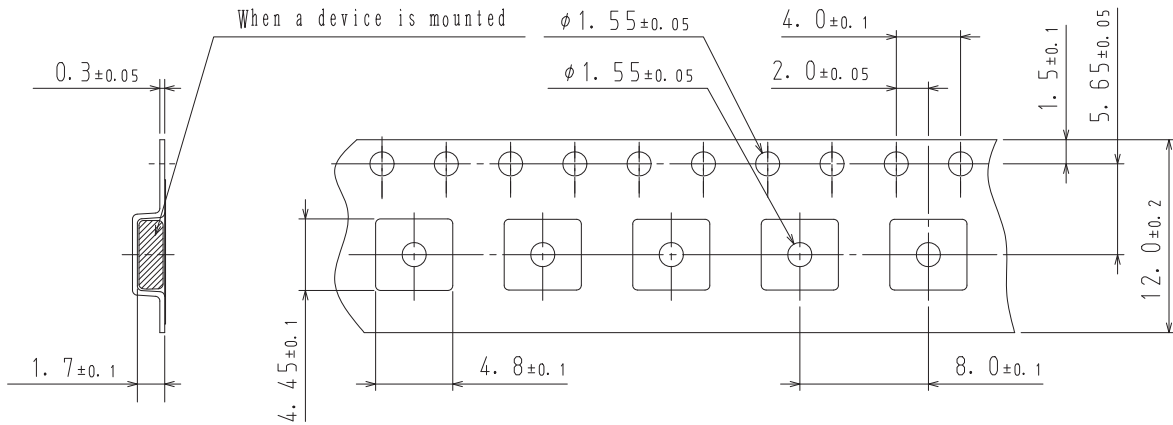
NOTE (1)

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

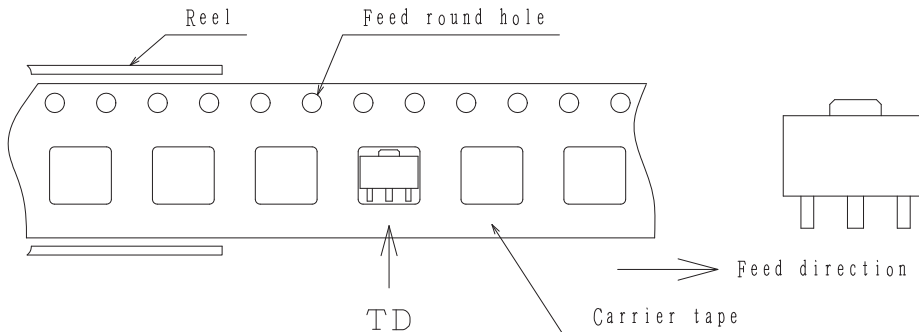
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

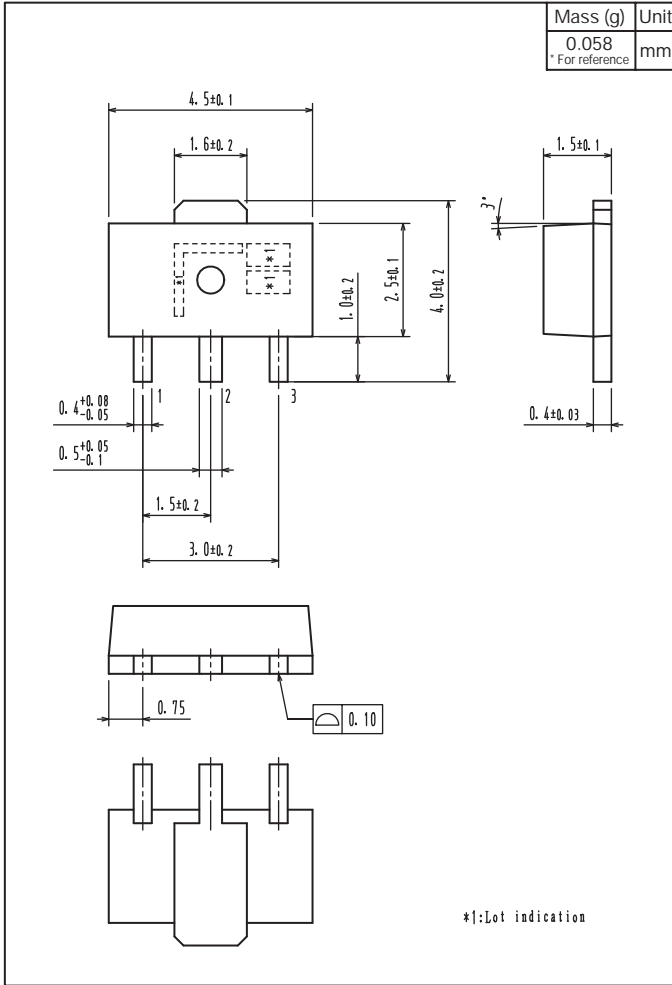


Those with pin 1 index on the feed hole side.....TD

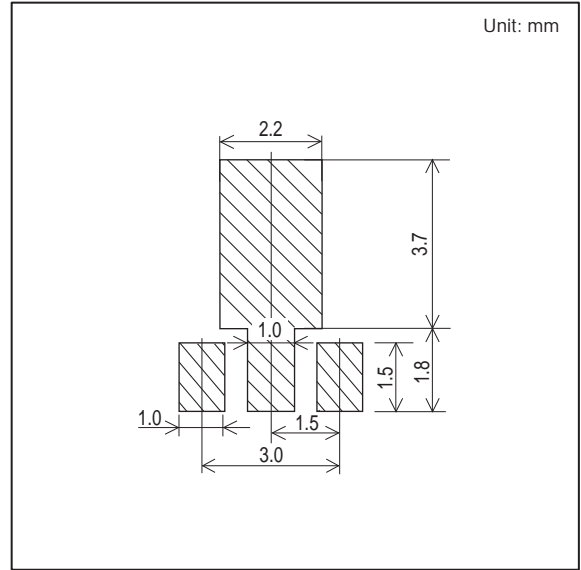
# PCP1208

## Outline Drawing

PCP1208-TD-H



## Land Pattern Example



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