CPH3114-TL-E Datasheet

https://www.DiGi-Electronics.com

DiGi Electronics Part Number	CPH3114-TL-E-DG
Manufacturer	onsemi
Manufacturer Product Number	CPH3114-TL-E
Description	TRANS PNP 15V 1.5A 3CPH
Detailed Description	Bipolar (BJT) Transistor PNP 15 V 1.5 A 350MHz 900 mW Surface Mount 3-CPH

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
CPH3114-TL-E	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP	1.5 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
15 V	180mV @ 15mA, 750mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	200 @ 100mA, 2V
Power - Max:	Frequency - Transition:
900 mW	350MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
SC-96	3-CPH
Base Product Number:	
CPH3114	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0075	

Ordering number : EN6394D

CPH3114

Bipolar Transistor
−15V, −1.5A, Low V_{CE}(sat), PNP Single CPH3

ON Semiconductor®
http://onsemi.com

Applications

- Relay drivers, lamp drivers, motor drivers, flash

Features

- Adoption of MBIT processes
- Large current capacity
- Low collector-to-emitter saturation voltage
- High-speed switching
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm)
- High allowable power dissipation

Specifications

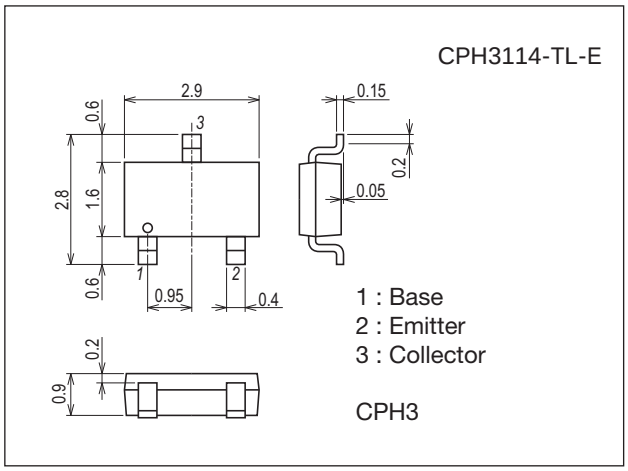
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		−15	V
Collector-to-Emitter Voltage	V_{CEO}		−15	V
Emitter-to-Base Voltage	V_{EBO}		−5	V
Collector Current	I_C		−1.5	A
Collector Current (Pulse)	I_{CP}		−3	A
Base Current	I_B		−300	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (600mm^2×0.8mm)	0.9	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°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

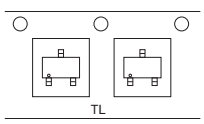
unit : mm (typ)
7015A-003



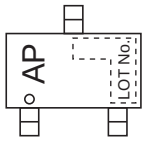
Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-59, TO-236, SOT-23
- Minimum Packing Quantity : 3,000 pcs./reel

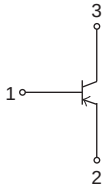
Packing Type: TL



Marking



Electrical Connection

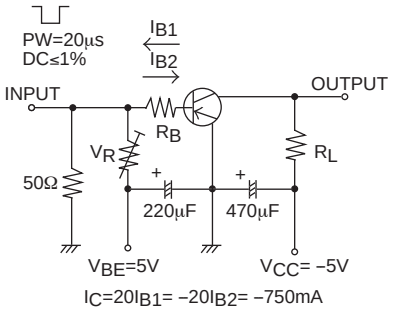


CPH3114

Electrical Characteristics at Ta=25°C

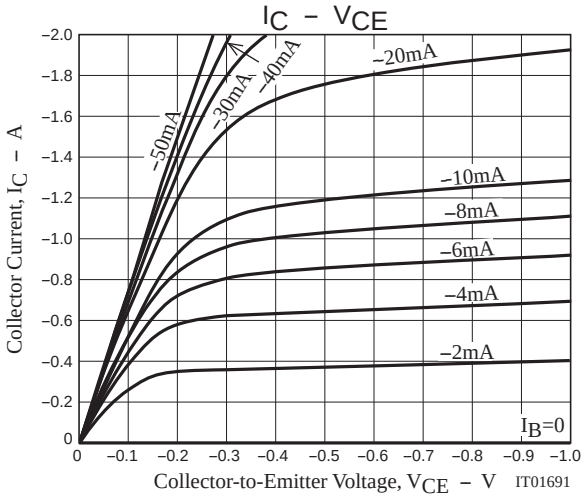
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}= −12V, I_E=0A			−0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}= −4V, I_C=0A			−0.1	μA
DC Current Gain	h_{FE}	V_{CE}= −2V, I_C= −100mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}= −2V, I_C= −300mA		350		MHz
Output Capacitance	Cob	V_{CB}= −10V, f=1MHz		17		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)1	I_C= −750mA, I_B= −15mA		−120	−180	mV
	V_{CE}(sat)2	I_C= −1.5mA, I_B= −30mA		−210	−320	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C= −750mA, I_B= −15mA		−0.85	−1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= −10μA, I_E=0A	−15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C= −1mA, R_{BE}=∞	−15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E= −10μA, I_C=0A	−5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}			90		ns
Fall Time	t_f			15		ns

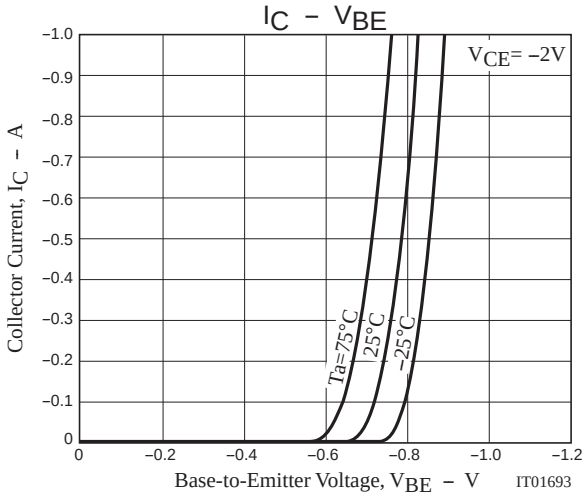
Switching Time Test Circuit



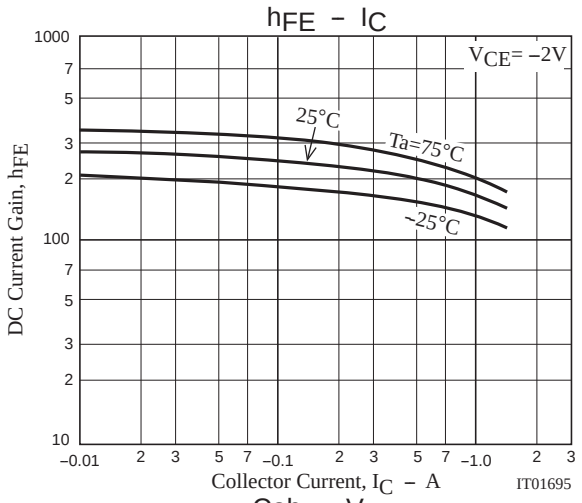
Ordering Information

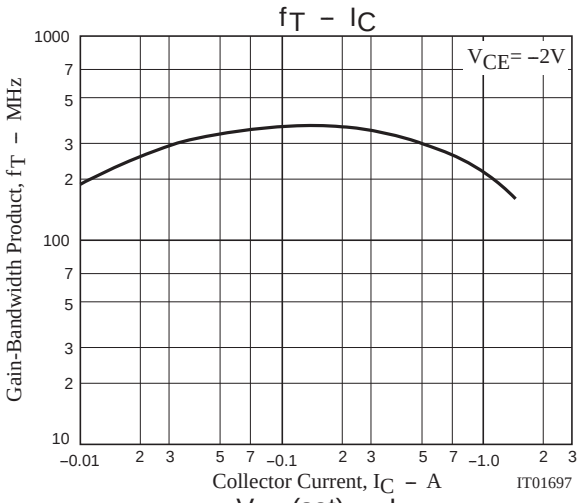
Device	Package	Shipping	memo
CPH3114-TL-E	CPH3	3,000pcs./reel	Pb Free

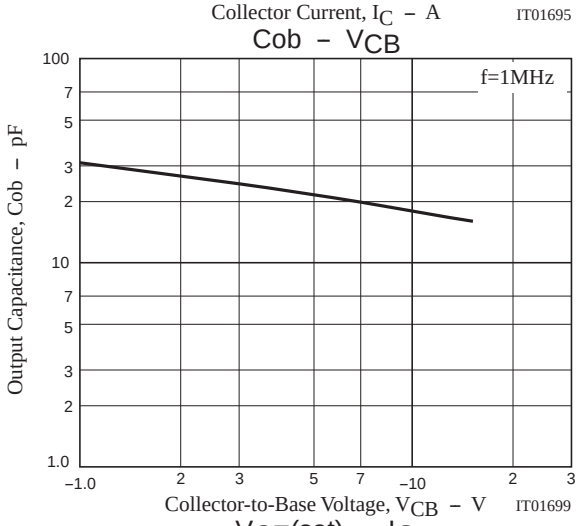


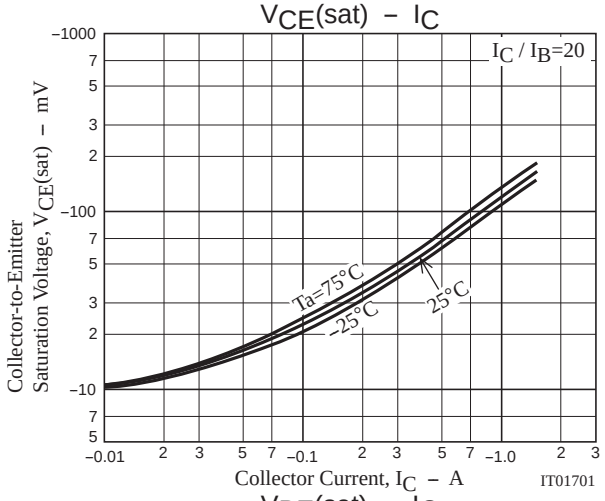


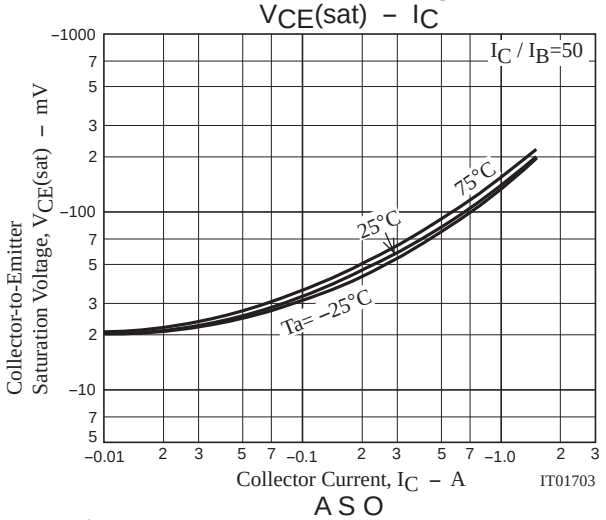
CPH3114

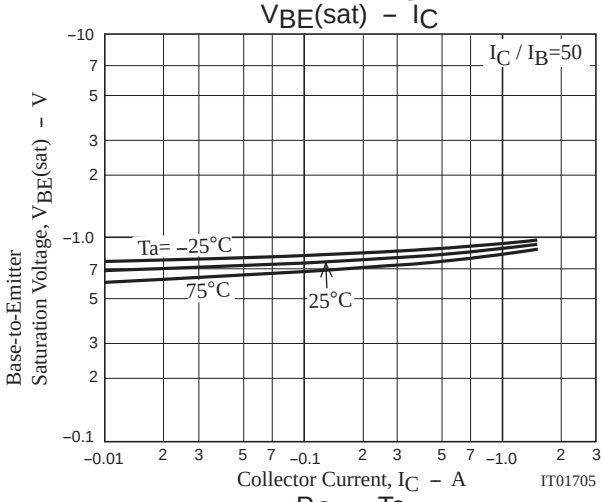

hFE – IC
VCE= –2V
25°C
Ta=75°C
–25°C
DC Current Gain, hFE
Collector Current, IC – A
IT01695

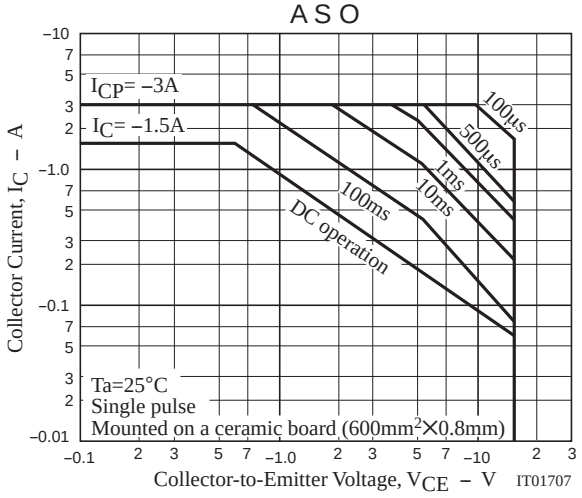

fT – IC
VCE= –2V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – A
IT01697

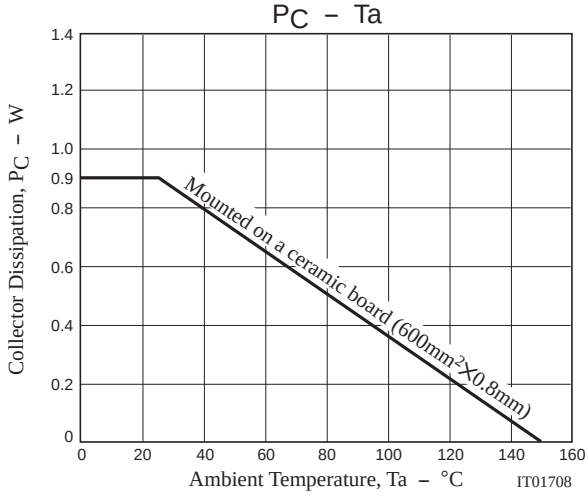

Cob – VCB
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT01699


VCE(sat) – IC
IC / IB=20
Ta=75°C
25°C
–25°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – mV
Collector Current, IC – A
IT01701


VCE(sat) – IC
IC / IB=50
75°C
25°C
Ta= –25°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – mV
Collector Current, IC – A
IT01703


VBE(sat) – IC
IC / IB=50
Ta= –25°C
75°C
25°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A
IT01705


A S O
ICP= –3A
IC= –1.5A
100µs
500µs
1ms
10ms
100ms
DC operation
Ta=25°C
Single pulse
Mounted on a ceramic board (600mm2×0.8mm)
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT01707


PC – Ta
Mounted on a ceramic board (600mm2×0.8mm)
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
IT01708

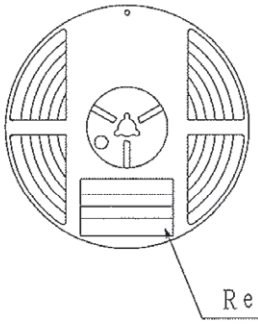
Embossed Taping Specification

CPH3114-TL-E

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)
CPH3	CPH3	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

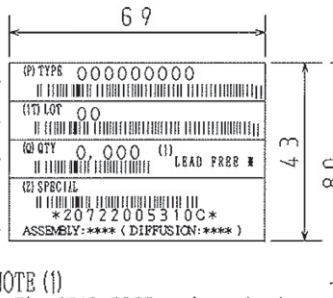
Packing method



Reel label

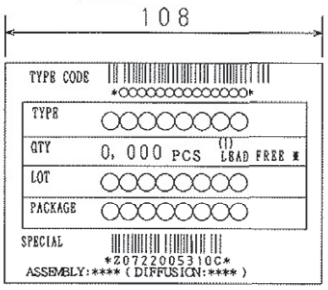
Reel label, Inner box label

(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.



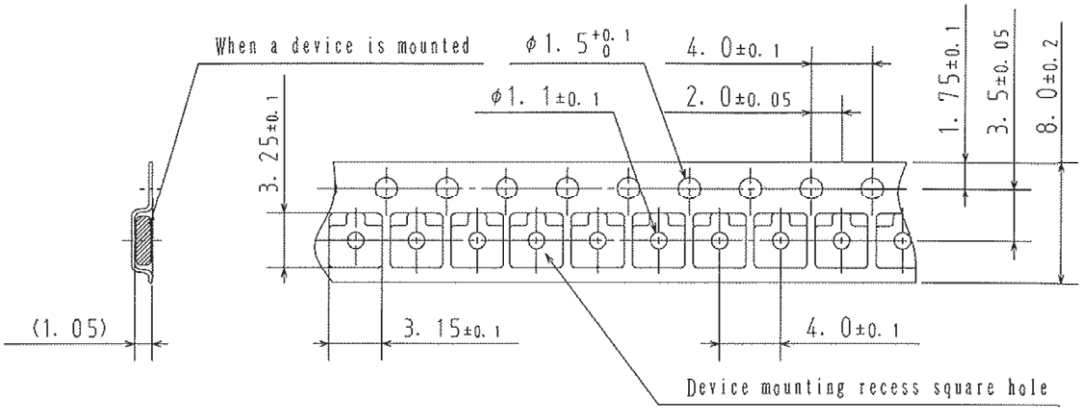
NOTE (1)

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

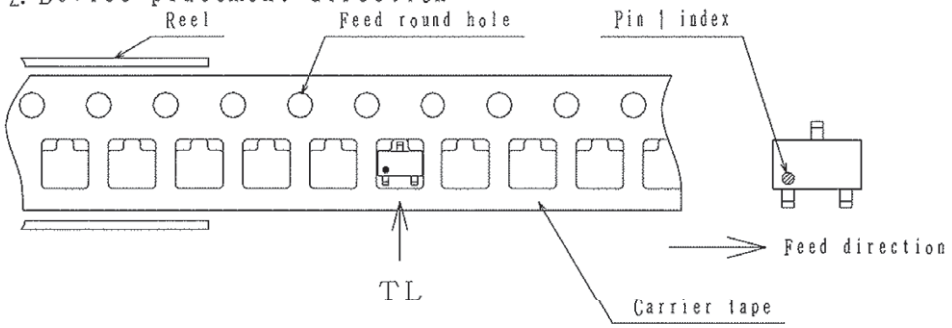
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

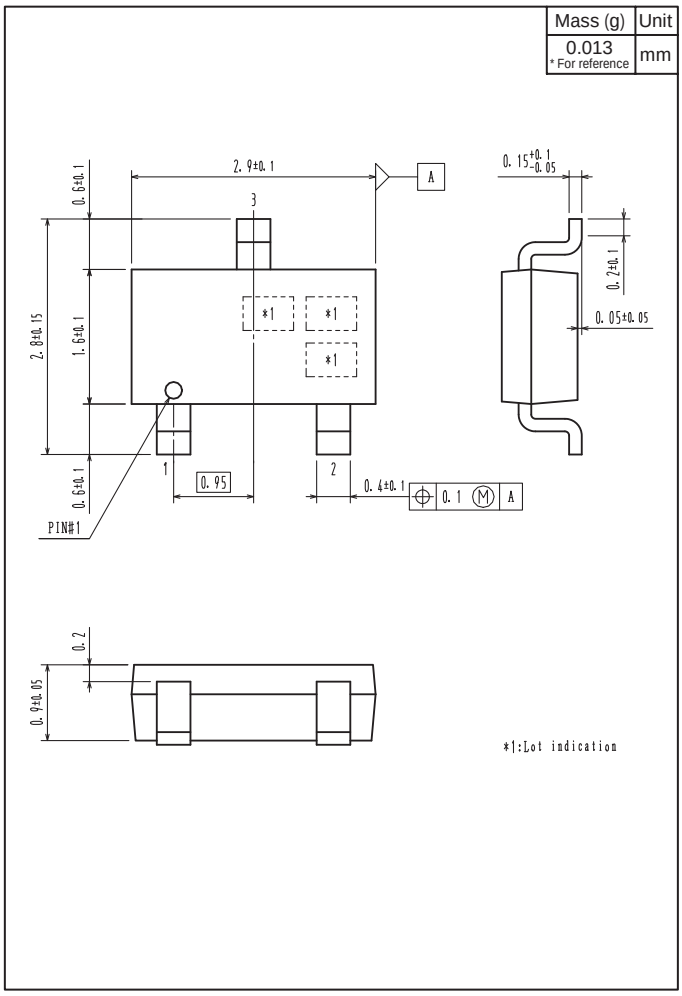


Those with one electrode terminal on the feed hole side·····TL

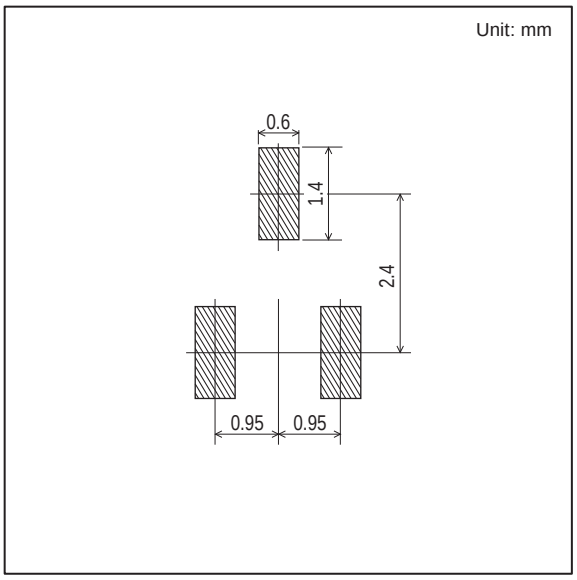
CPH3114

Outline Drawing

CPH3114-TL-E



Land Pattern Example



OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.