Ordering number : EN7198B

2SA1179N/2SC2812N

Bipolar Transistor
(–)50V, (–)150mA, Low V_{CE}(sat), (PNP)NPN Single CPA

ON Semiconductor®
http://onsemi.com

Features

- Miniature package facilitates miniaturization in end products
- High breakdown voltage

Specifications ( ) : 2SA1179N

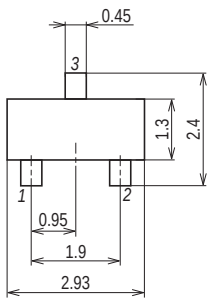
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)55	V
Collector-to-Emitter Voltage	V_{CEO}		(–)50	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)150	mA
Collector Current (Pulse)	I_{CP}		(–)300	mA
Base Current	I_B		(–)30	mA
Collector Dissipation	P_C		200	mW
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)
7053-001



2SA1179N6-TB-E
2SA1179N6-CPA-TB-E
2SC2812N6-TB-E
2SC2812N6-CPA-TB-E

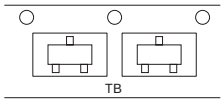
1 : Base
2 : Emitter
3 : Collector

CPA

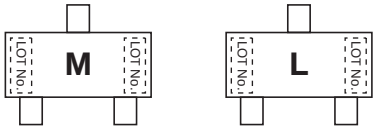
Product & Package Information

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

Packing Type: TB



Marking



2SA1179N 2SC2812N

Electrical Characteristics at Ta=25°C

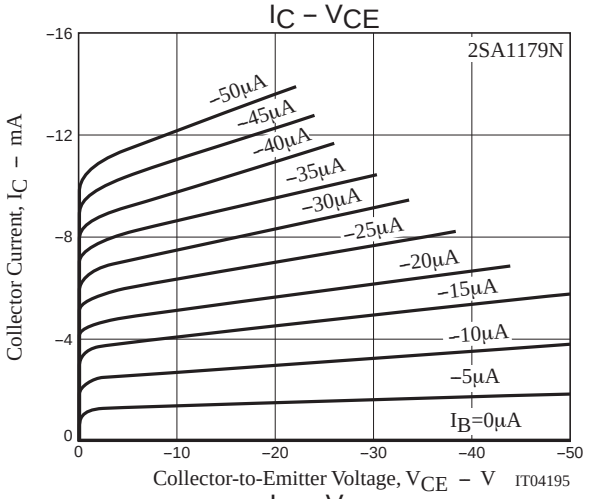
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)35V, I_E=0A			(−)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0A			(−)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(−)6V, I_C=(−)1mA	200		400	
Gain-Bandwidth Product	f_T	2SC2812N : V_{CE}=6V, I_C=1mA		100		MHz
		2SA1179N : V_{CE}=−6V, I_C=−10mA		(180)		MHz
Output Capacitance	Cob	V_{CB}=(−)6V, f=1MHz		(4.0)3.0		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(−)50mA, I_B=(−)5mA		(−0.15)0.1	(−)0.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=(−)50mA, I_B=(−)5mA			(−)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0A	(−)55			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA, R_{BE}=∞	(−)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA, I_C=0A	(−)5			V

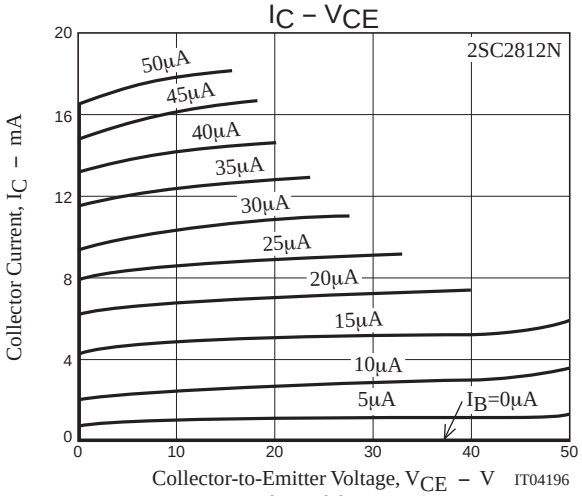
* : The 2SA1179N / 2SC2812N are classified by 1mA h_{FE} as follws :

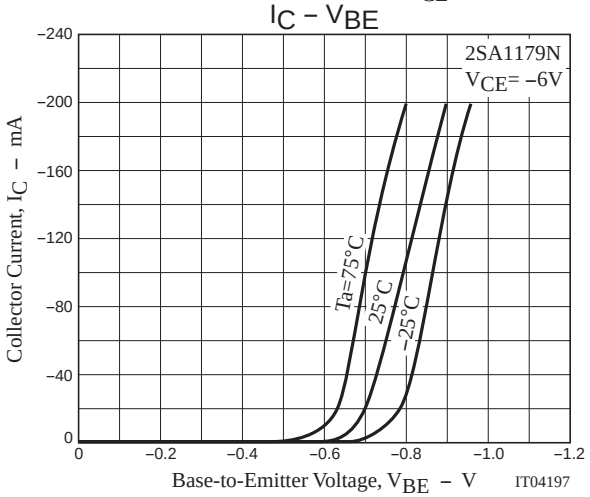
Rank	6
h_{FE}	200 to 400

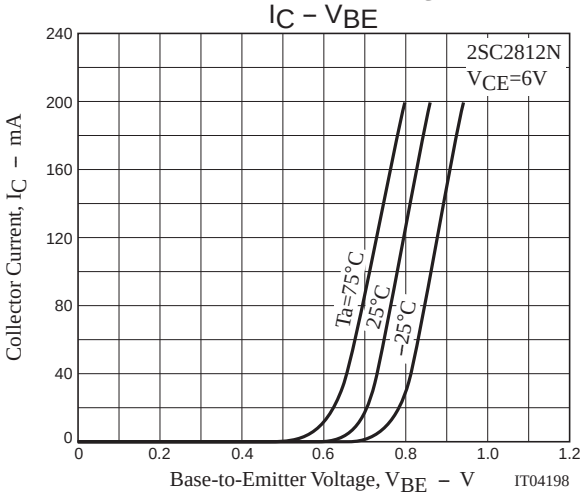
Ordering Information

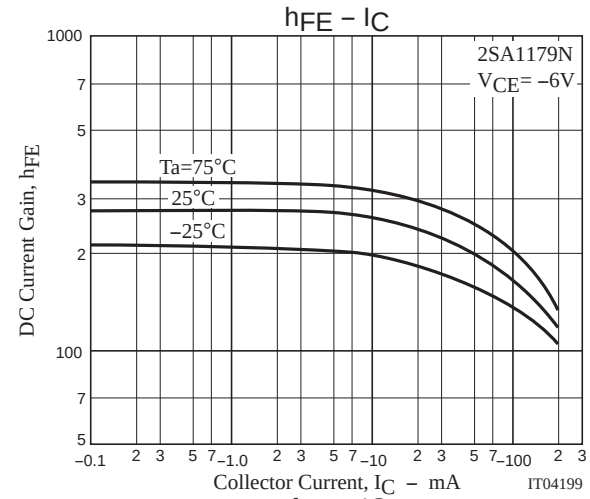
Device	Package	Shipping	memo
2SA1179N6-TB-E	CPA	3,000pcs./reel	Pb Free
2SA1179N6-CPA-TB-E	CPA	3,000pcs./reel	
2SC2812N6-TB-E	CPA	3,000pcs./reel	
2SC2812N6-CPA-TB-E	CPA	3,000pcs./reel	

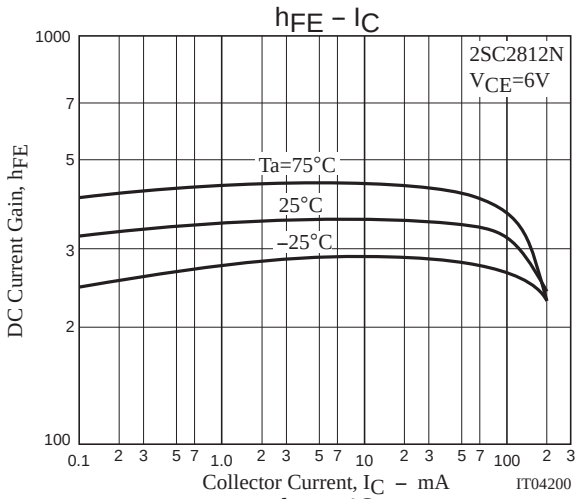


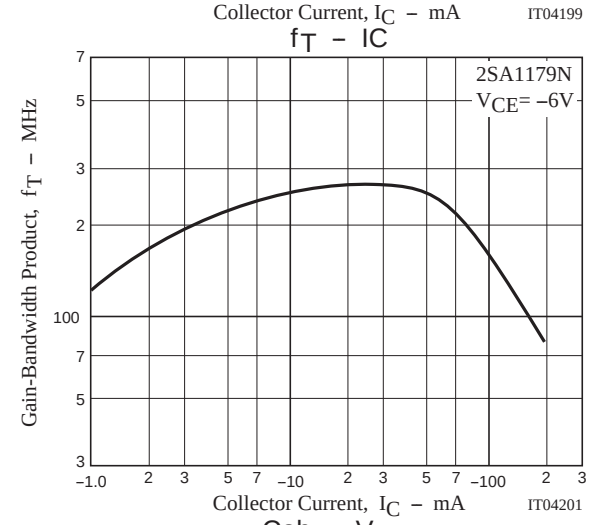


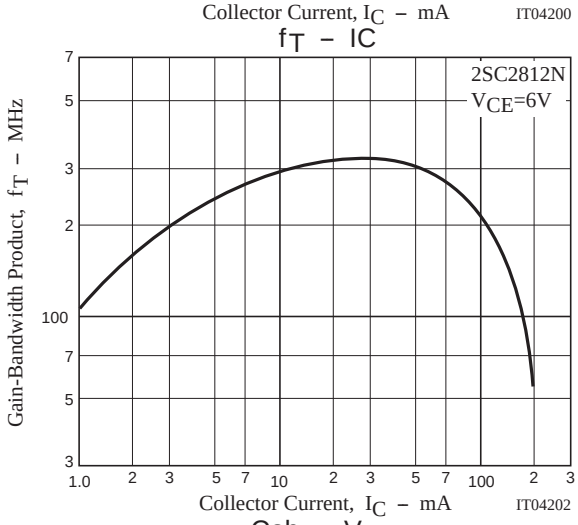


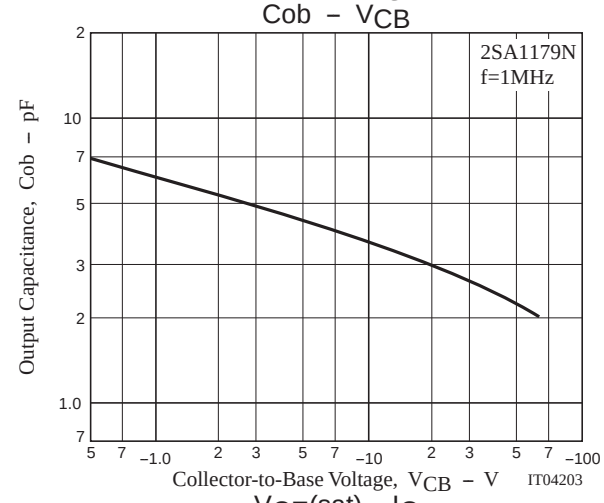


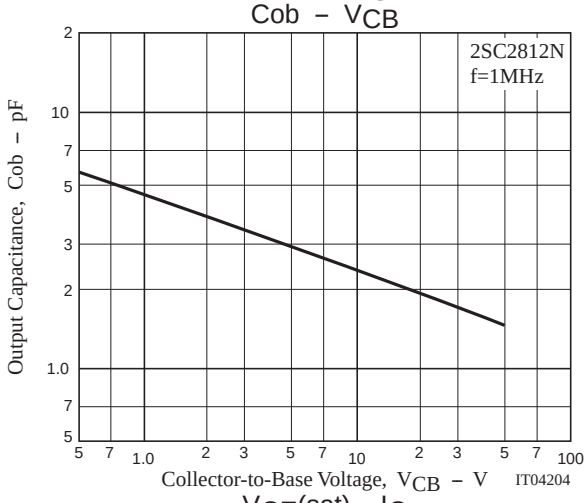

hFE – IC
2SA1179N
VCE= –6V
Ta=75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – mA
IT04199

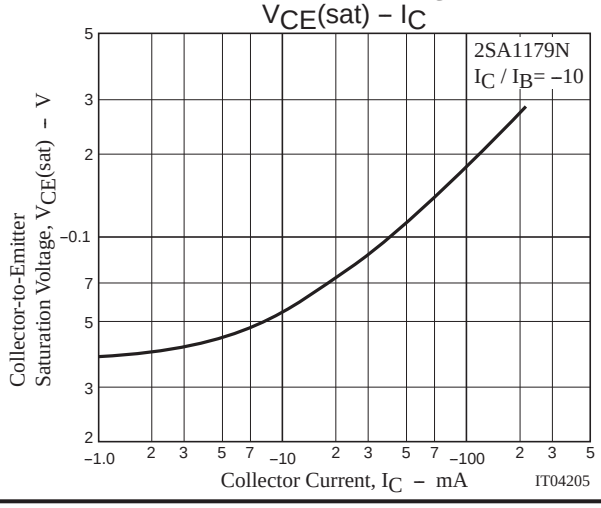

hFE – IC
2SC2812N
VCE=6V
Ta=75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – mA
IT04200

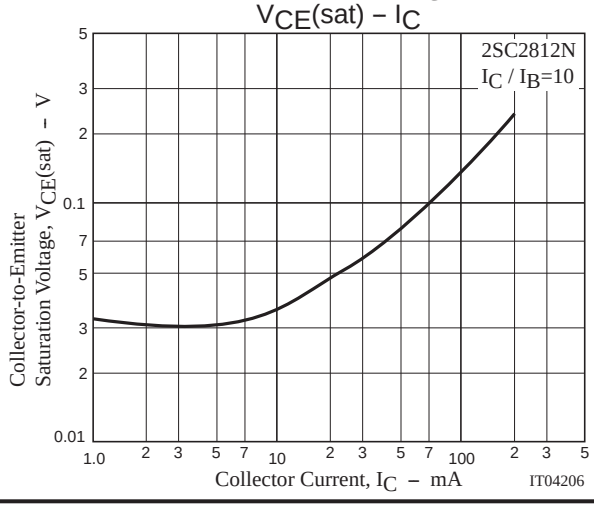

fT – IC
2SA1179N
VCE= –6V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
IT04201

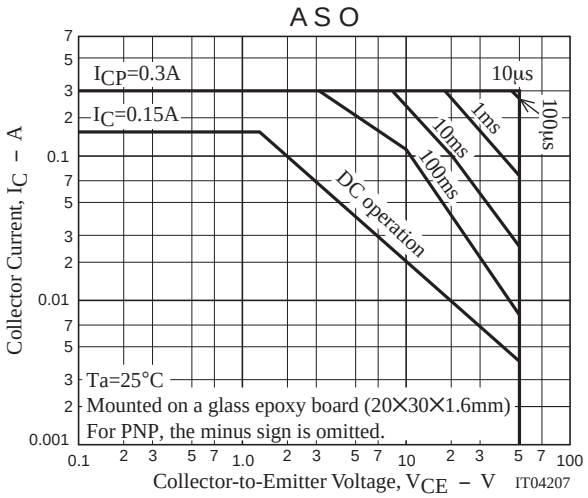

fT – IC
2SC2812N
VCE=6V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
IT04202

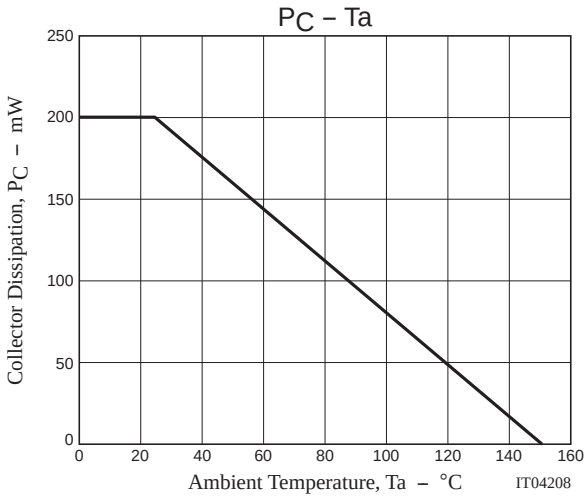

Cob – VCB
2SA1179N
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT04203


Cob – VCB
2SC2812N
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT04204


VCE(sat) – IC
2SA1179N
IC / IB= –10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
IT04205


VCE(sat) – IC
2SC2812N
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
IT04206


A S O
I_{CP}=0.3A
I_C=0.15A
10µs
1ms
10ms
100ms
100µs
DC operation
Ta=25°C
Mounted on a glass epoxy board (20×30×1.6mm)
For PNP, the minus sign is omitted.
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V
IT04207


P_C – Ta
Collector Dissipation, P_C – mW
Ambient Temperature, Ta – °C
IT04208

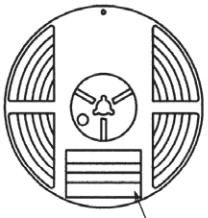
Embossed Taping Specification

2SA1179N6-TB-E, 2SA1179N6-CPA-TB-E, 2SC2812N6-TB-E, 2SC2812N6-CPA-TB-E

1. Packing format

Storagepackage Outline name	Carriertape Typenumber	Maximum Number of Devices contained (PCS)			Packing format	
		Reel	Innerbox	Outerbox	InnerboxBOX (C-1)	OuterboxBOX (A-7)
CPA	CPA	3,000	15,000	90,000	5reels contained Dimensions:mm (external) 183×72×185	6 innerboxescontained Dimensions:mm (external) 440×195×210

Packingmethod



Barcode label

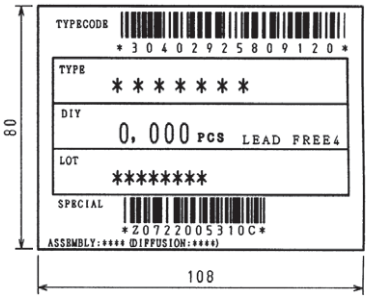
Barcodelabel (unit:mm)



*LEAD FREE:
Lead-free Externalterminalsurface treatment product

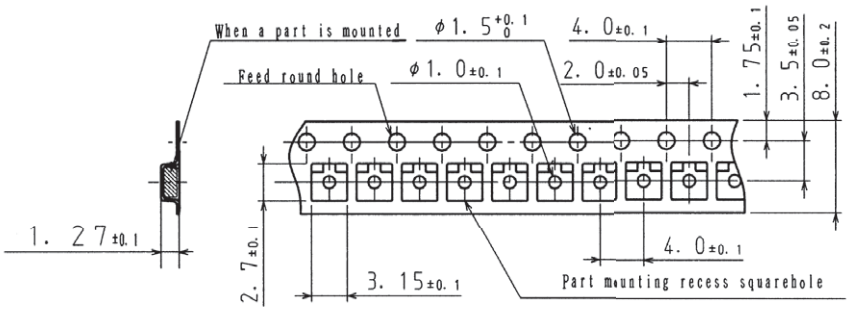
ShippingLabel

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

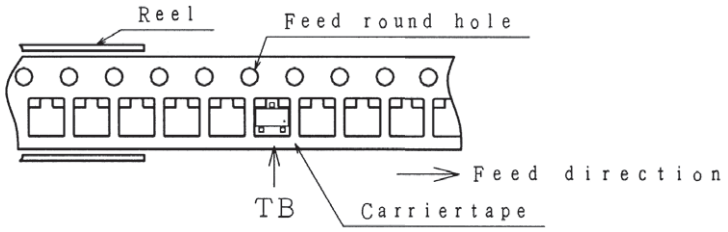


2. Taping structure

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

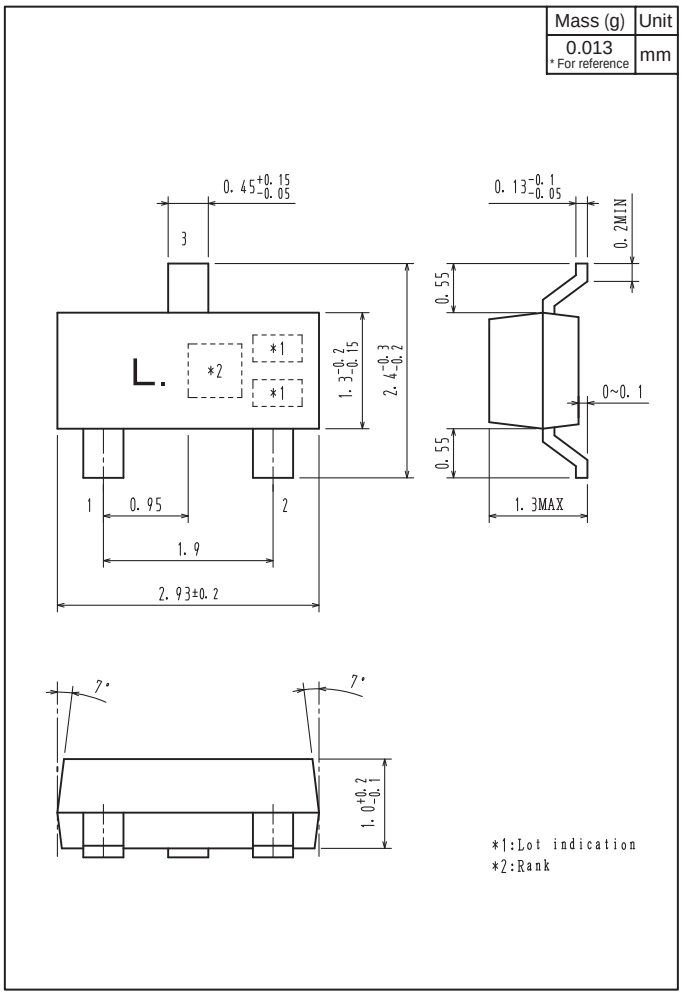


2-2. Parts placement direction

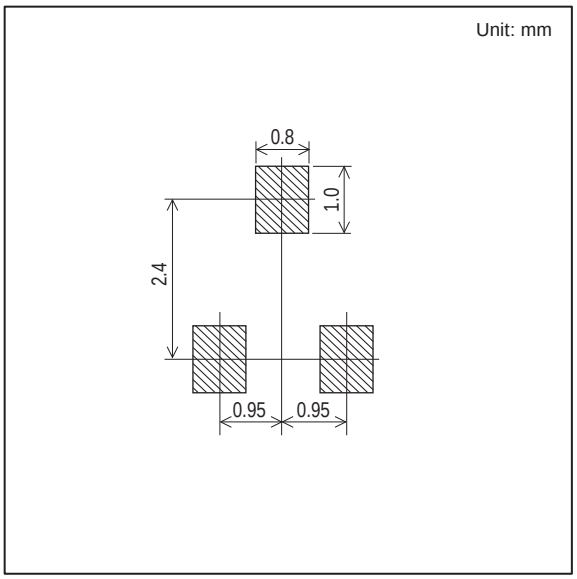


Outline Drawing

2SA1179N6-TB-E, 2SA1179N6-CPA-TB-E, 2SC2812N6-TB-E, 2SC2812N6-CPA-TB-E



Land Pattern Example



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