Ordering number : ENA1087A

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

NPN Epitaxial Planar Silicon Transistor

2SC5347A — High-Frequency Semi-Power Output Stage, Low-Noise Medium Output Amplifier Applications

Features

- High-frequency medium output amplification (V_{CE}=5V, I_C=50mA)
  : f_T=4.7GHz typ (f=1GHz)
  : $|S21e|^2$=8dB typ (f=1GHz)
  : NF=1.8dB typ (f=1GHz)

Specifications

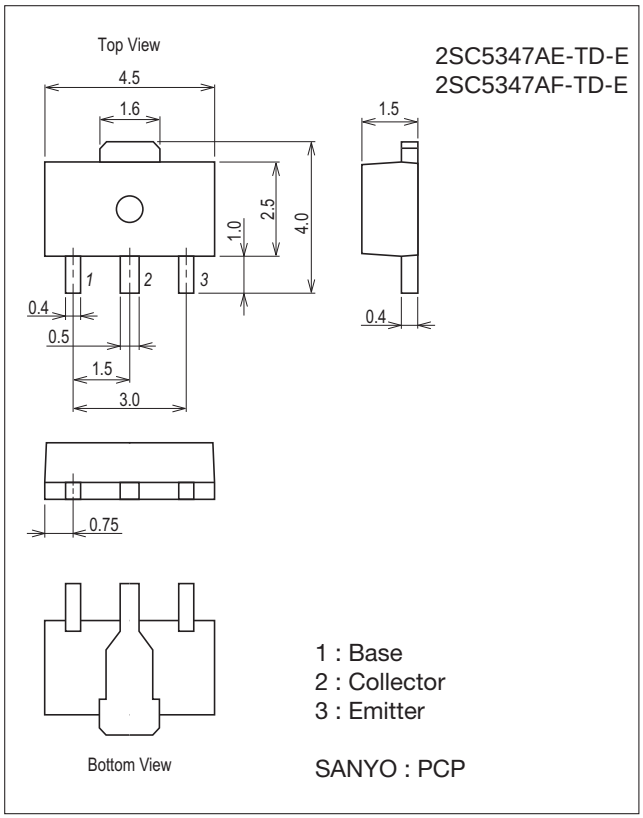
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		20	V
Collector-to-Emitter Voltage	V_{CEO}		12	V
Emitter-to-Base Voltage	V_{EBO}		2	V
Collector Current	I_C		150	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (900mm^2×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Package Dimensions

unit : mm (typ)

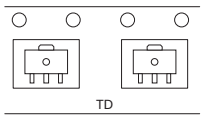
7007B-004



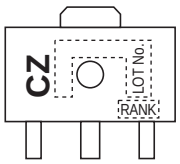
Product & Package Information

- Package : PCP
- JEITA, JEDEC : SC-62, SOT-89, TO-243
- Minimum Packing Quantity : 1,000 pcs./reel

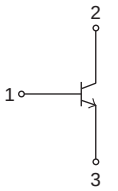
Packing Type: TD



Marking



Electrical Connection



Electrical Characteristics at Ta=25°C

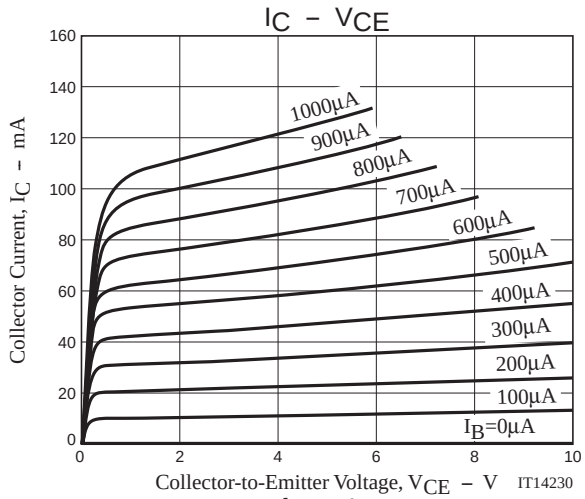
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=10V, I_E=0A			1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=1V, I_C=0A			10	μA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=50mA	60*		270*	
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=50mA	3	4.7		GHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		1.3	2.0	pF
Reverse Transfer Capacitance	Cre			0.9		pF
Forward Transfer Gain	$\|S21e\|^2$	V_{CE}=5V, I_C=50mA, f=1GHz	6	8		dB
Noise Figure	NF	V_{CE}=5V, I_C=50mA, f=1GHz		1.8	3.0	dB

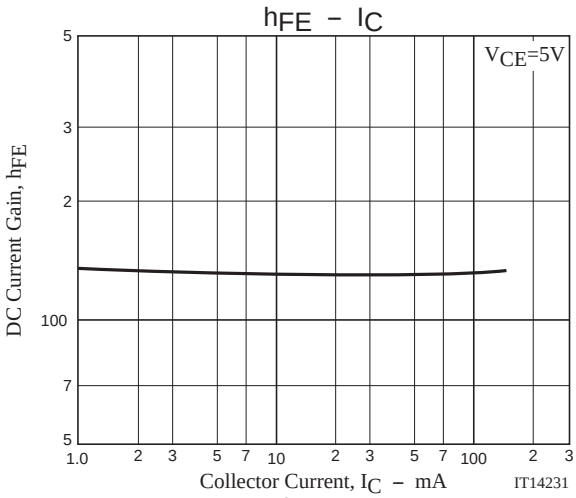
* : The 2SC5347A is classified by 50mA h_{FE} as follows :

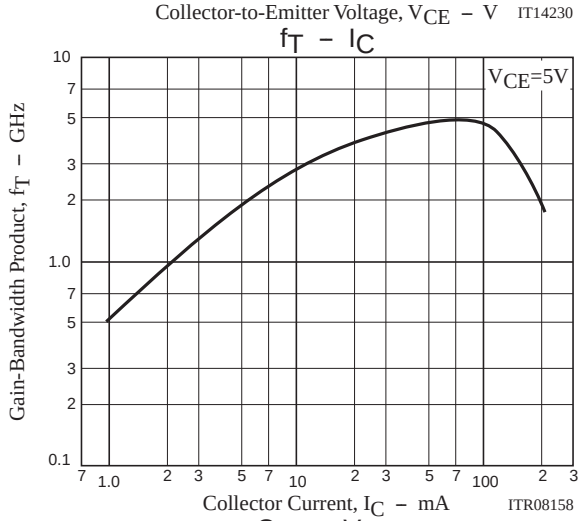
Rank	D	E	F
h_{FE}	60 to 120	90 to 180	135 to 270

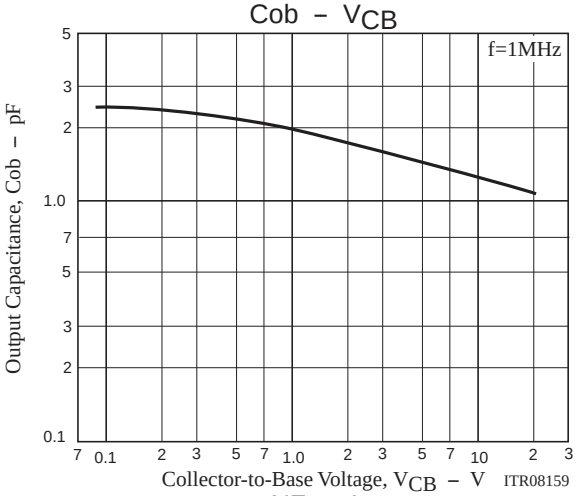
Ordering Information

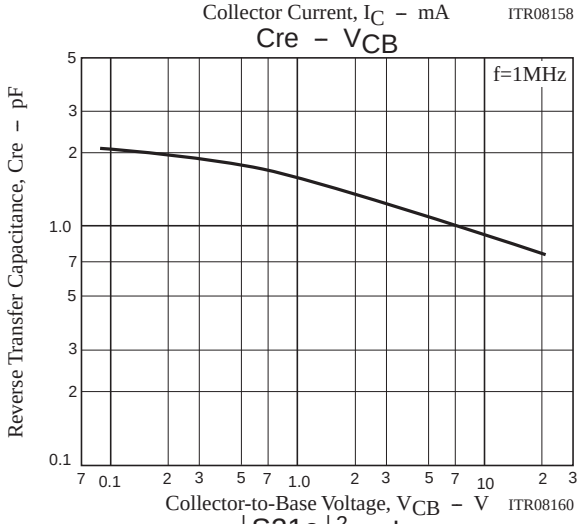
Device	Package	Shipping	memo
2SC5347AE-TD-E	PCP	1,000pcs./reel	Pb Free
2SC5347AF-TD-E	PCP	1,000pcs./reel	

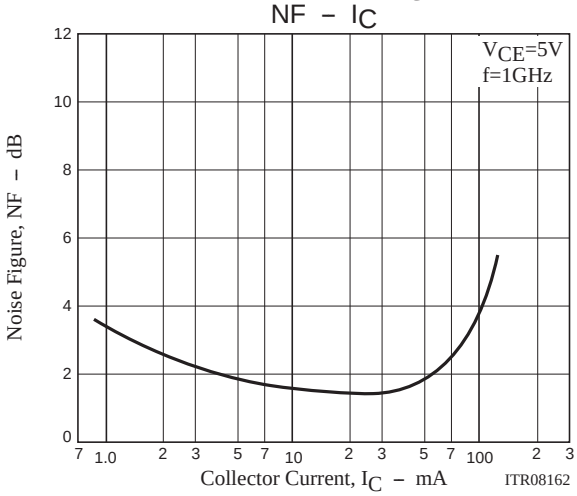

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
IT14230
1000μA
900μA
800μA
700μA
600μA
500μA
400μA
300μA
200μA
100μA
IB=0μA

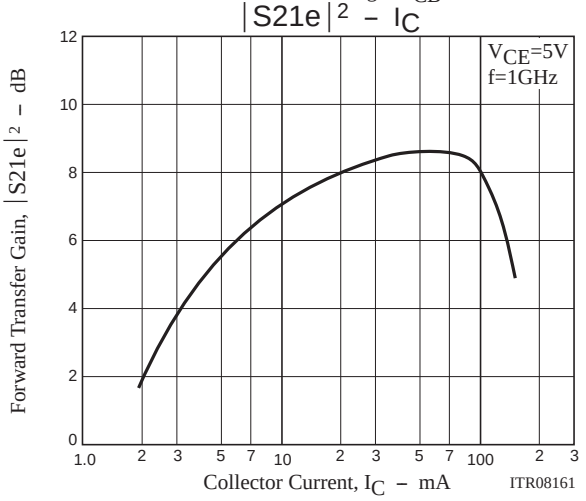

hFE – IC
DC Current Gain, hFE
Collector Current, IC – mA
IT14231
VCE=5V

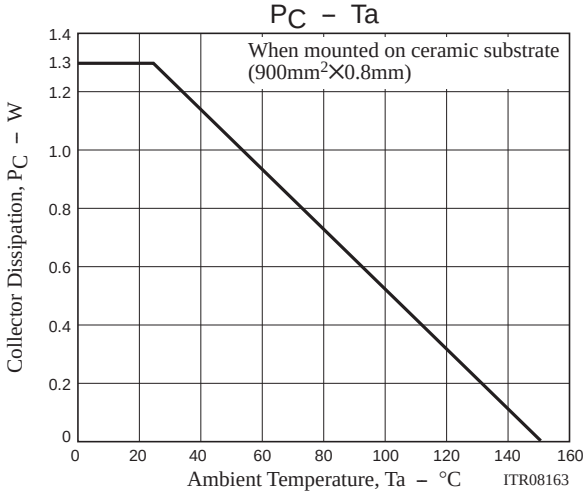

fT – IC
Gain-Bandwidth Product, fT – GHz
Collector Current, IC – mA
ITR08158
VCE=5V


Cob – VCB
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
ITR08159
f=1MHz


Cre – VCB
Reverse Transfer Capacitance, Cre – pF
Collector-to-Base Voltage, VCB – V
ITR08160
f=1MHz


NF – IC
Noise Figure, NF – dB
Collector Current, IC – mA
ITR08162
VCE=5V
f=1GHz

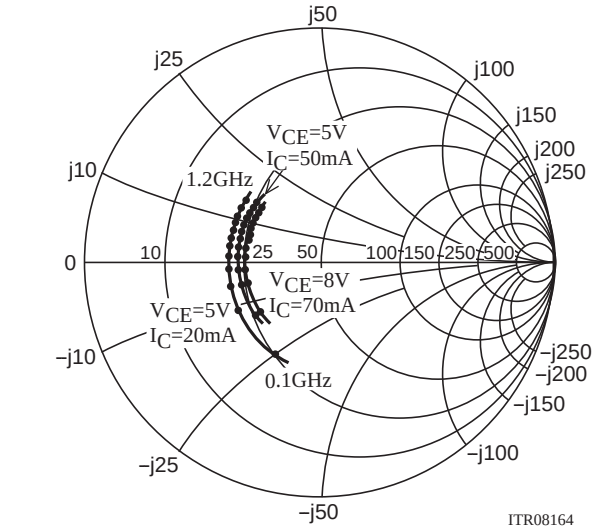

|S21e|2 – IC
Forward Transfer Gain, |S21e|2 – dB
Collector Current, IC – mA
ITR08161
VCE=5V
f=1GHz


PC – Ta
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
ITR08163
When mounted on ceramic substrate
(900mm2×0.8mm)

S Parameter

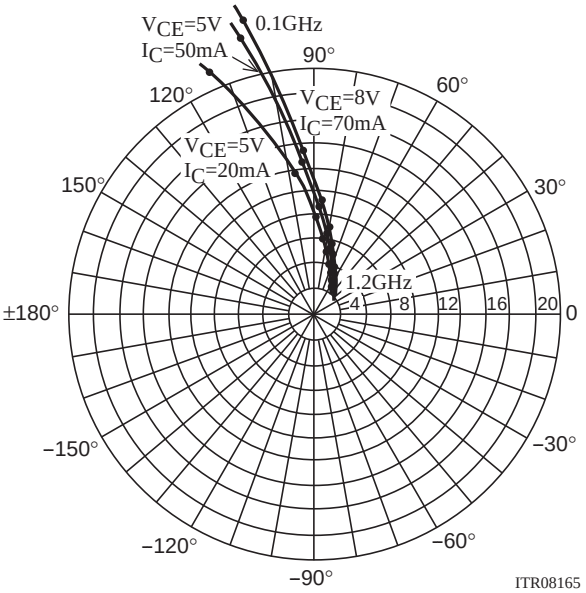
S11e

f=100MHz to 1200MHz(100MHz Step)



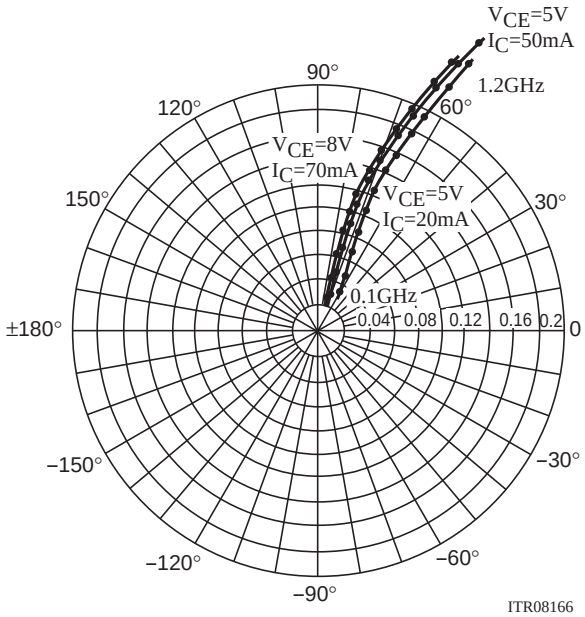
S21e

f=100MHz to 1200MHz(100MHz Step)



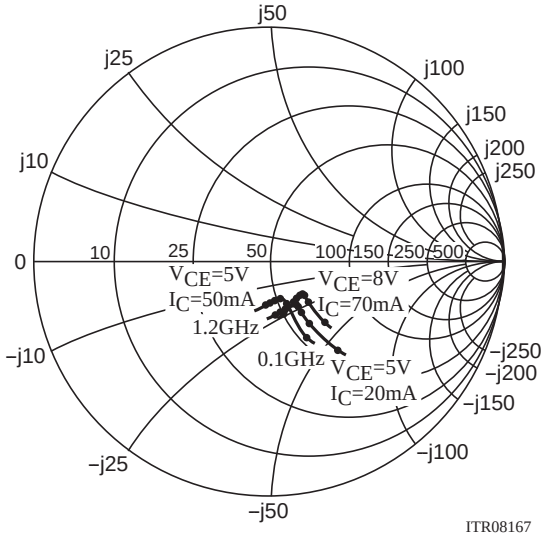
S12e

f=100MHz to 1200MHz(100MHz Step)



S22e

f=100MHz to 1200MHz(100MHz Step)



S Parameters (Common emitter)

V_{CE}=5V, I_C=50mA, Z_O=50Ω

Freq(MHz)	|S11|	∠S11	|S21|	∠S21	|S12|	∠S12	|S22|	∠S22
100	0.358	-141.0	24.005	105.9	0.027	68.4	0.342	-63.0
200	0.354	-165.7	12.593	93.3	0.047	72.7	0.205	-68.4
300	0.355	-176.8	8.532	86.8	0.068	74.1	0.166	-69.7
400	0.359	174.9	6.428	81.9	0.089	73.7	0.149	-72.3
500	0.359	169.3	5.293	77.6	0.110	72.8	0.145	-75.3
600	0.362	163.9	4.360	73.5	0.130	71.7	0.143	-78.6
700	0.366	158.5	3.774	69.9	0.151	70.2	0.147	-82.1
800	0.364	153.5	3.334	66.4	0.171	68.6	0.151	-85.6
900	0.368	149.8	2.995	62.9	0.191	66.7	0.158	-90.1
1000	0.370	145.3	2.725	59.4	0.210	65.1	0.166	-92.3
1100	0.373	141.5	2.494	56.5	0.230	63.0	0.170	-95.1
1200	0.377	137.6	2.307	53.0	0.248	61.4	0.177	-97.8

V_{CE}=5V, I_C=20mA, Z_O=50Ω

Freq(MHz)	|S11|	∠S11	|S21|	∠S21	|S12|	∠S12	|S22|	∠S22
100	0.445	-115.4	21.095	113.8	0.032	59.7	0.479	-52.4
200	0.400	-149.6	11.567	97.4	0.049	63.4	0.300	-58.0
300	0.394	-165.7	7.917	89.3	0.066	67.0	0.242	-58.8
400	0.391	-176.5	5.974	82.5	0.085	68.5	0.214	-60.0
500	0.391	176.7	4.845	78.4	0.103	68.8	0.203	-62.2
600	0.392	169.4	4.065	73.9	0.122	68.6	0.199	-64.7
700	0.393	163.8	3.522	70.0	0.141	67.8	0.198	-67.9
800	0.394	158.4	3.114	66.4	0.159	67.1	0.201	-71.2
900	0.396	154.1	2.798	62.5	0.178	65.7	0.204	-74.7
1000	0.399	149.3	2.548	58.9	0.196	64.5	0.212	-78.1
1100	0.403	144.9	2.333	55.5	0.215	62.9	0.218	-81.4
1200	0.408	141.0	2.158	51.8	0.233	61.8	0.224	-84.1

V_{CE}=8V, I_C=70mA, Z_O=50Ω

Freq(MHz)	|S11|	∠S11	|S21|	∠S21	|S12|	∠S12	|S22|	∠S22
100	0.328	-141.2	25.505	105.1	0.024	70.5	0.348	-50.8
200	0.323	-165.7	13.334	93.0	0.043	75.0	0.233	-48.9
300	0.323	-176.6	9.025	86.7	0.062	75.8	0.204	-47.0
400	0.326	175.1	6.819	81.8	0.081	75.5	0.191	-48.0
500	0.325	169.5	5.481	77.8	0.100	74.5	0.187	-50.5
600	0.328	163.6	4.612	73.7	0.119	73.4	0.185	-53.6
700	0.330	158.4	3.980	70.2	0.139	71.8	0.188	-57.3
800	0.333	153.5	3.524	66.7	0.157	70.4	0.191	-60.9
900	0.335	150.0	3.148	63.3	0.177	68.5	0.198	-65.1
1000	0.341	144.7	2.866	60.0	0.194	67.1	0.204	-69.0
1100	0.345	141.2	2.629	57.0	0.213	65.1	0.208	-72.1
1200	0.348	138.0	2.424	53.4	0.230	62.6	0.215	-75.3

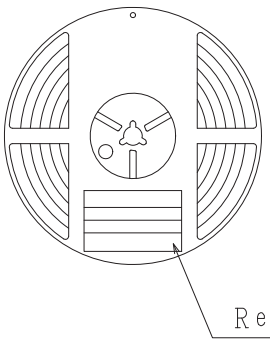
Embossed Taping Specification

2SC5347AE-TD-E, 2SC5347AF-TD-E

1. Packing Format

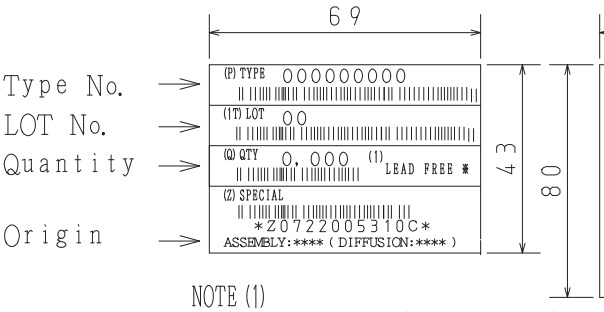
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
PCP	PCP	1,000	4,000	24,000	4 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



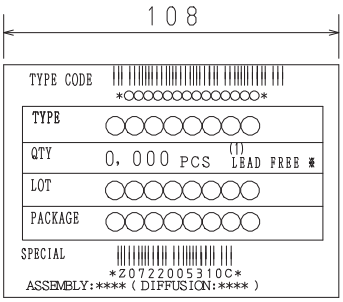
Reel label

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.

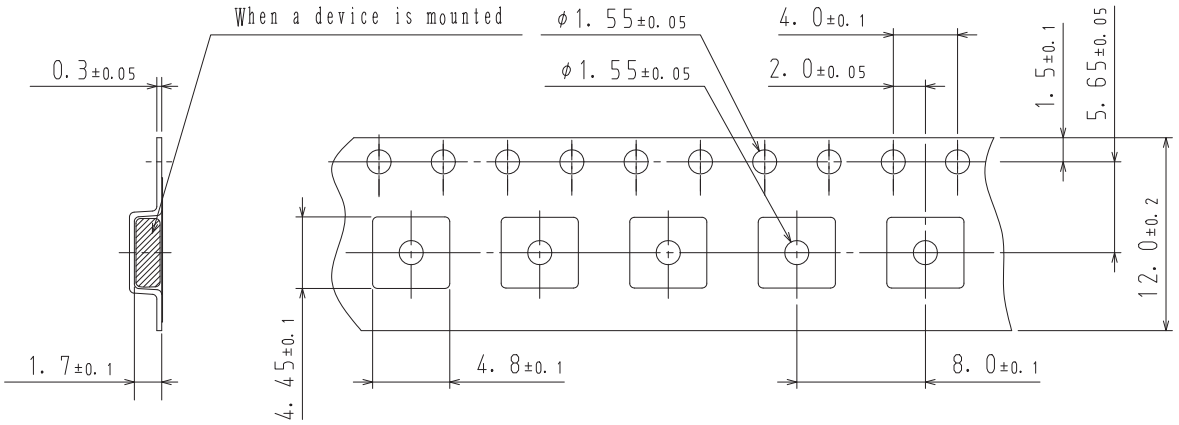


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

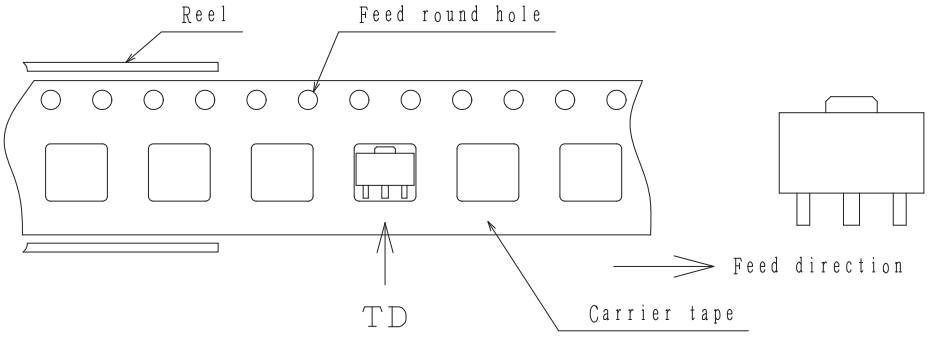
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



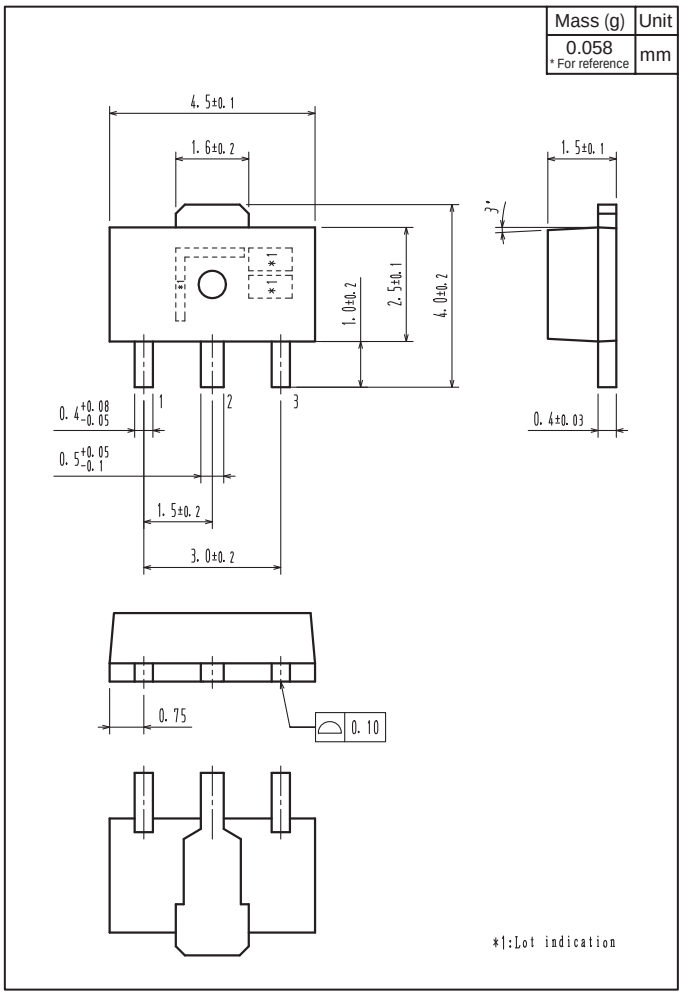
2-2. Device placement direction



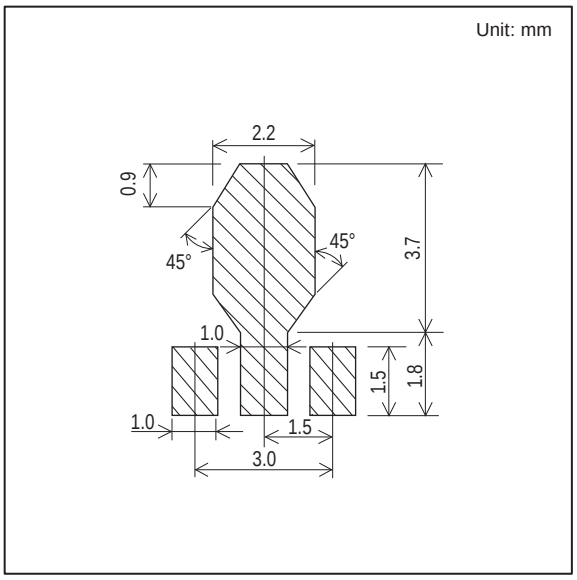
Those with pin 1 index on the feed hole side·····TD

Outline Drawing

2SC5347AE-TD-E, 2SC5347AF-TD-E



Land Pattern Example



Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

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Офис по работе с юридическими лицами:

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