2SC4027T-TL-E Datasheet

https://www.DiGi-Electronics.com

DiGi Electronics Part Number	2SC4027T-TL-E-DG
Manufacturer	onsemi
Manufacturer Product Number	2SC4027T-TL-E
Description	TRANS NPN 160V 1.5A TP-FA
Detailed Description	Bipolar (BJT) Transistor NPN 160 V 1.5 A 120MHz 1 W Surface Mount TP-FA

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SC4027T-TL-E	onsemi
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
NPN	1.5 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
160 V	450mV @ 50mA, 500mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
1µA (ICBO)	100 @ 100mA, 5V
Power - Max:	Frequency - Transition:
1 W	120MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-252-3, DPAK (2 Leads + Tab), SC-63	TP-FA
Base Product Number:	
2SC4027	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0075	

Ordering number : EN2262F

2SA1552/2SC4027

Bipolar Transistor

(–)160V, (–)1.5A, Low V_{CE}(sat) (PNP)NPN Single TP/TP-FA

ON Semiconductor®

http://onsemi.com

Applications

・ Converters, inverters, color TV audio output

Features

・ Adoption of FBET, MBIT processes ・ High voltage and large current capacity ・ Ultrahigh-speed switching
・ Small and slim package permitting 2SA1552 / 2SC4027-applied sets to be made more compact

Specifications ( ): 2SA1552

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CBO}		(–)180	V
Collector to Emitter Voltage	V_{CEO}		(–)160	V
Emitter to Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)1.5	A
Collector Current (Pulse)	I_{CP}		(–)2.5	A

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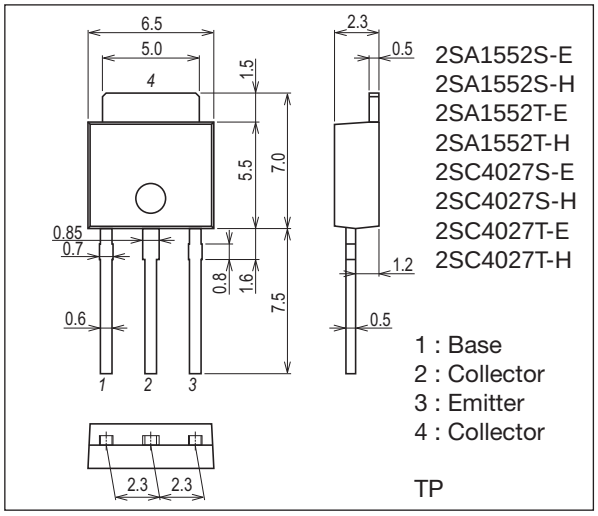
Package Dimensions unit : mm (typ)
7518-003

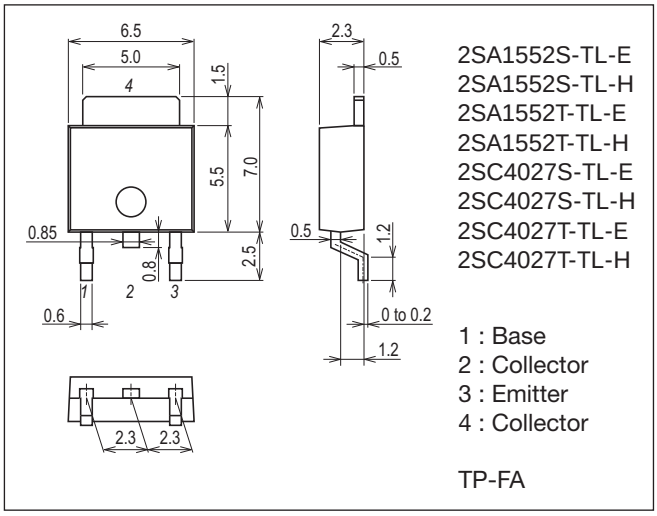


2SA1552S-E
2SA1552S-H
2SA1552T-E
2SA1552T-H
2SC4027S-E
2SC4027S-H
2SC4027T-E
2SC4027T-H

1 : Base
2 : Collector
3 : Emitter
4 : Collector

TP

Package Dimensions unit : mm (typ)
7003-003



2SA1552S-TL-E
2SA1552S-TL-H
2SA1552T-TL-E
2SA1552T-TL-H
2SC4027S-TL-E
2SC4027S-TL-H
2SC4027T-TL-E
2SC4027T-TL-H

1 : Base
2 : Collector
3 : Emitter
4 : Collector

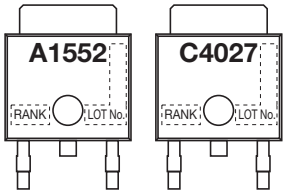
TP-FA

Product & Package Information

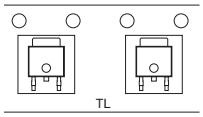
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

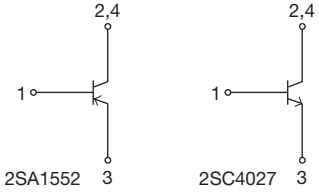
Marking (TP, TP-FA)



Packing Type (TP-FA) : TL



Electrical Connection



2SA1552 / 2SC4027

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Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	P_C		1	W
		Tc=25°C	15	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.

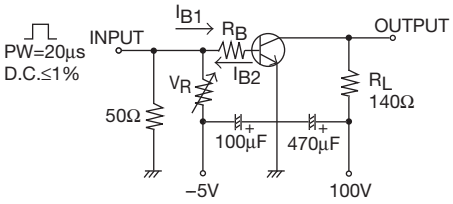
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)120V, I_E=0A			(−)1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0A			(−)1.0	μA
DC Current Gain	$h_{FE}1$	V_{CE}=(−)5V, I_C=(−)100mA	140*		400*	
	$h_{FE}2$	V_{CE}=(−)5V, I_C=(−)10mA	80			
Gain-Bandwidth Product	f_T	V_{CE}=(−)10V, I_C=(−)50mA		120		MHz
Output Capacitance	Cob	V_{CB}=(−)10V, f=1MHz		(22)12		pF
Collector to Emitter Saturation Voltage	V_{CE}(sat)	I_C=(−)500mA, I_B=(−)50mA		(−0.2)0.13	(−0.5)0.45	V
Base to Emitter Saturation Voltage	V_{BE}(sat)	I_C=(−)500mA, I_B=(−)50mA		(−)0.85	(−)1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0A	(−)180			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA, R_{BE}=∞	(−)160			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA, I_C=0A	(−)6			V
Turn-On Time	t_{on}	See specified Test Circuit.		60		ns
Storage Time	t_{stg}			(0.7)1.2		μs
Fall Time	t_f			(50)80		ns

* : The 2SA1552 / 2SC4027 are classified by 100mA h_{FE} as follows : (unit : μA)

Rank	S	T
h_{FE}	140 to 280	200 to 400

Switching Time Test Circuit

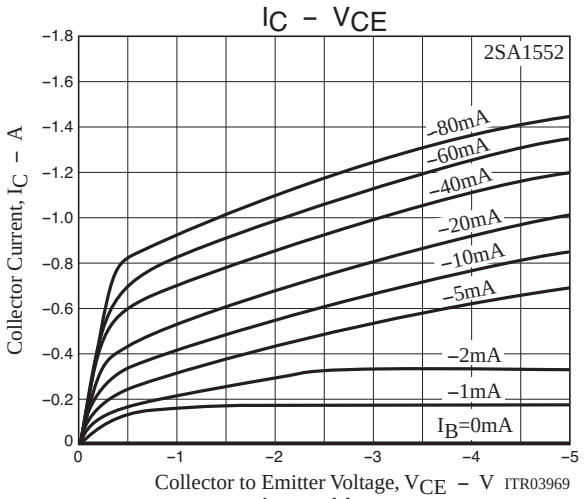


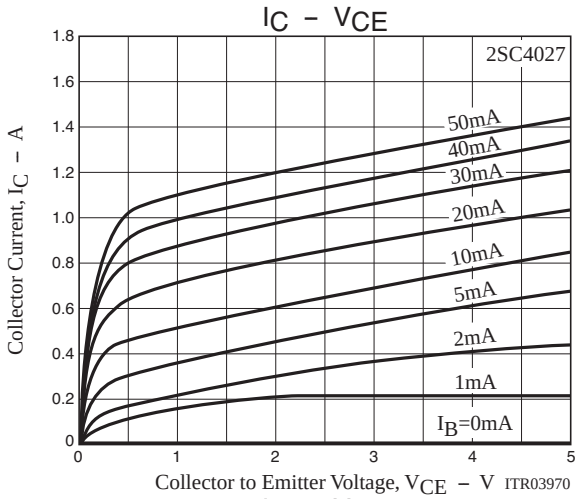
$10I_{B1}$= −$10I_{B2}$=I_C=0.7A
For PNP, the polarity is reversed.

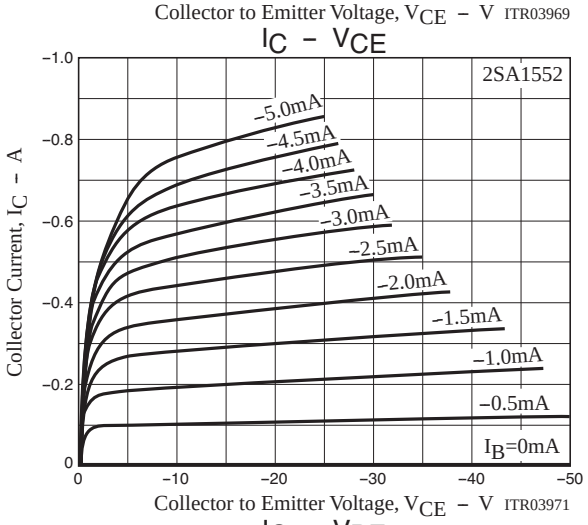
Ordering Information

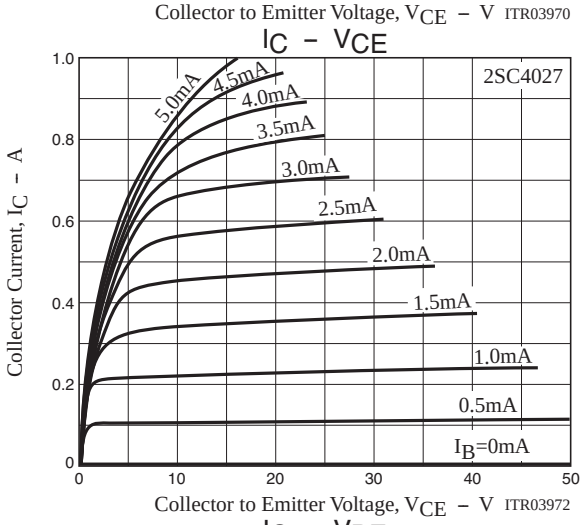
Device	Package	Shipping	memo
2SA1552S-E	TP	500pcs./bag	Pb Free
2SA1552S-H	TP	500pcs./bag	Pb Free and Halogen Free
2SA1552T-E	TP	500pcs./bag	Pb Free
2SA1552T-H	TP	500pcs./bag	Pb Free and Halogen Free
2SC4027S-E	TP	500pcs./bag	Pb Free
2SC4027S-H	TP	500pcs./bag	Pb Free and Halogen Free
2SC4027T-E	TP	500pcs./bag	Pb Free
2SC4027T-H	TP	500pcs./bag	Pb Free and Halogen Free
2SA1552S-TL-E	TP-FA	700pcs./reel	Pb Free
2SA1552S-TL-H	TP-FA	700pcs./reel	Pb Free and Halogen Free
2SA1552T-TL-E	TP-FA	700pcs./reel	Pb Free
2SA1552T-TL-H	TP-FA	700pcs./reel	Pb Free and Halogen Free
2SC4027S-TL-E	TP-FA	700pcs./reel	Pb Free
2SC4027S-TL-H	TP-FA	700pcs./reel	Pb Free and Halogen Free
2SC4027T-TL-E	TP-FA	700pcs./reel	Pb Free
2SC4027T-TL-H	TP-FA	700pcs./reel	Pb Free and Halogen Free

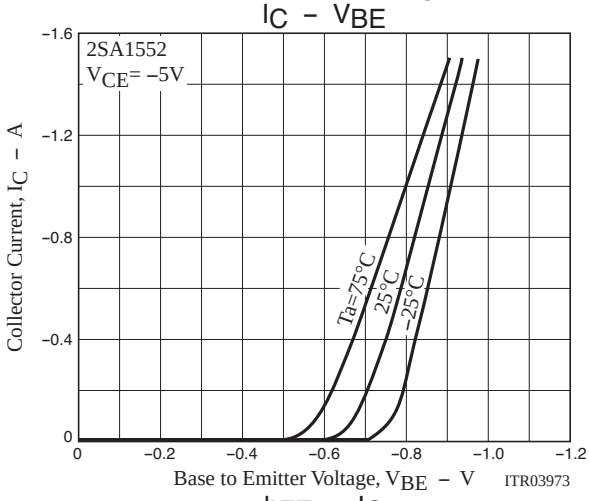
2SA1552 / 2SC4027

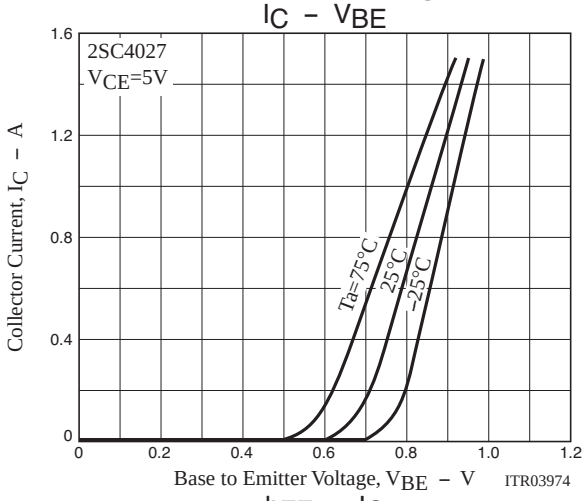


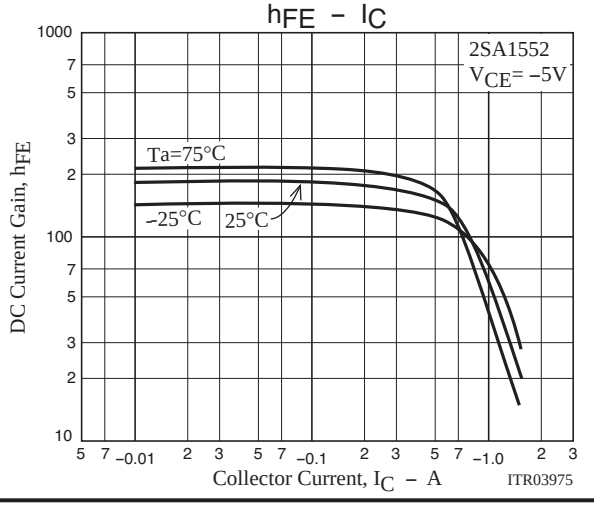


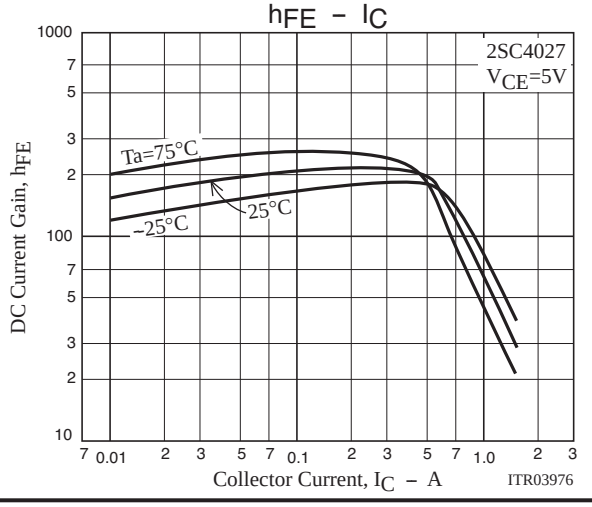












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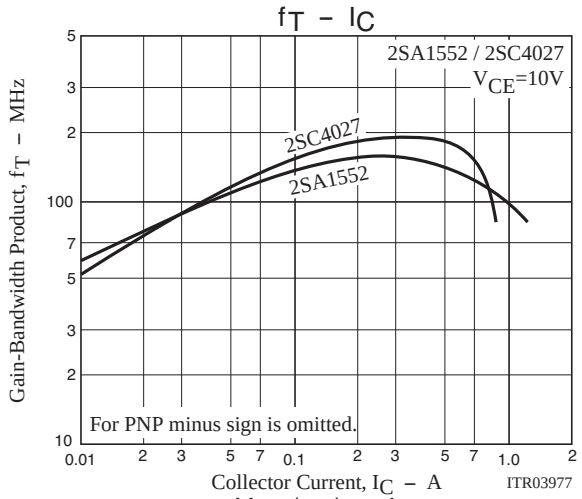
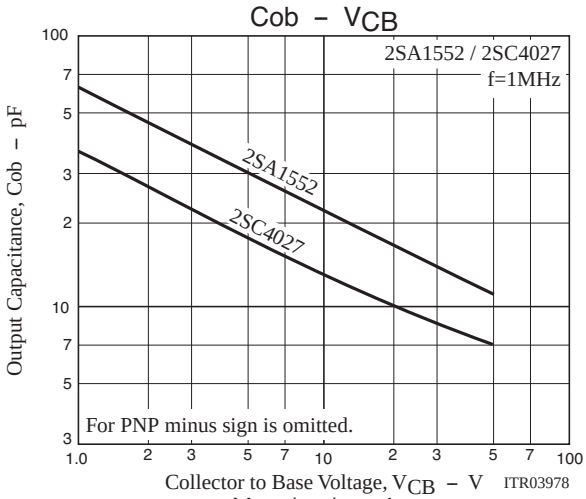
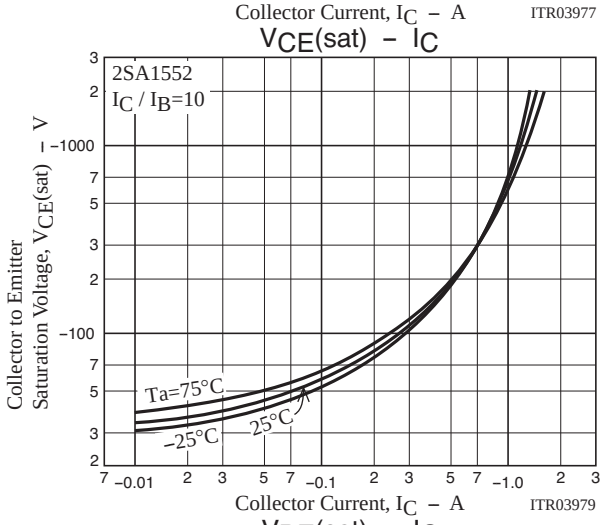
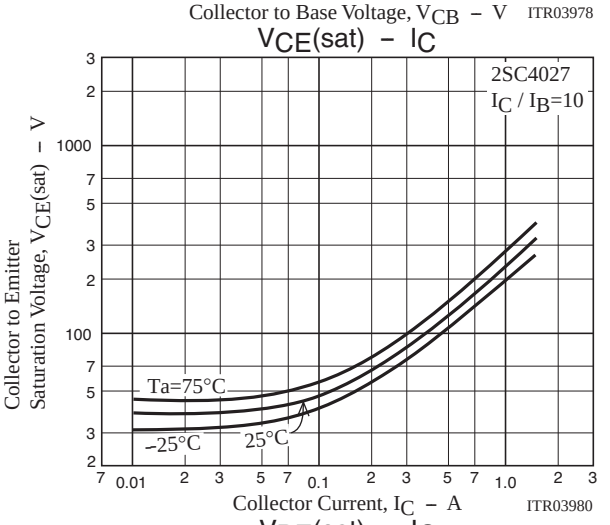
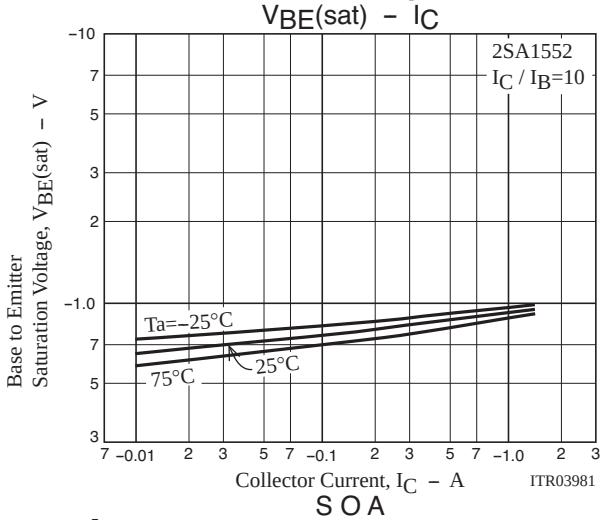
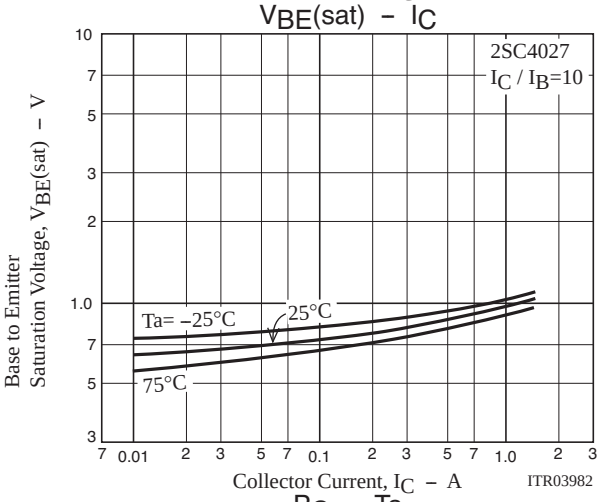


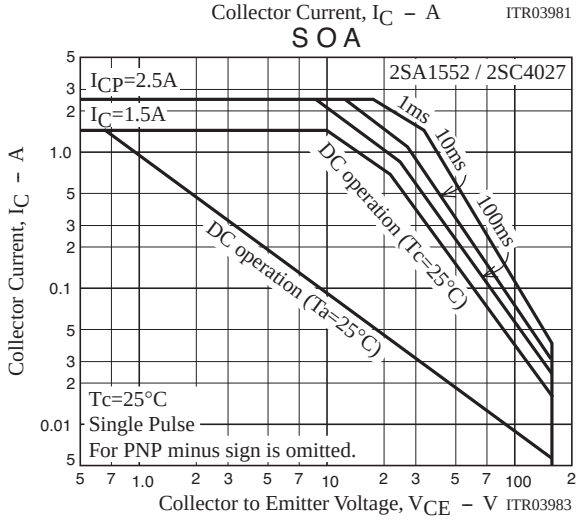


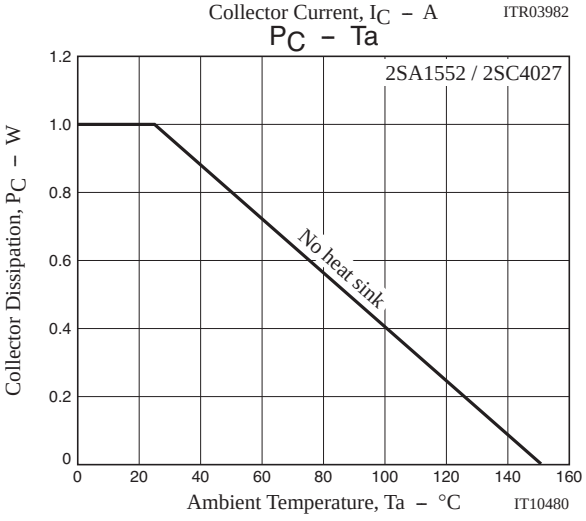


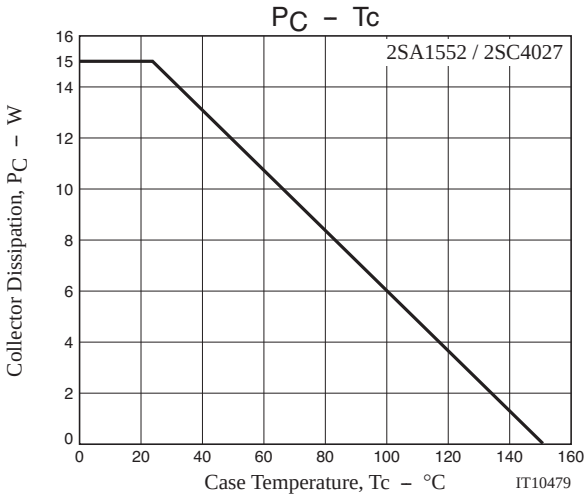








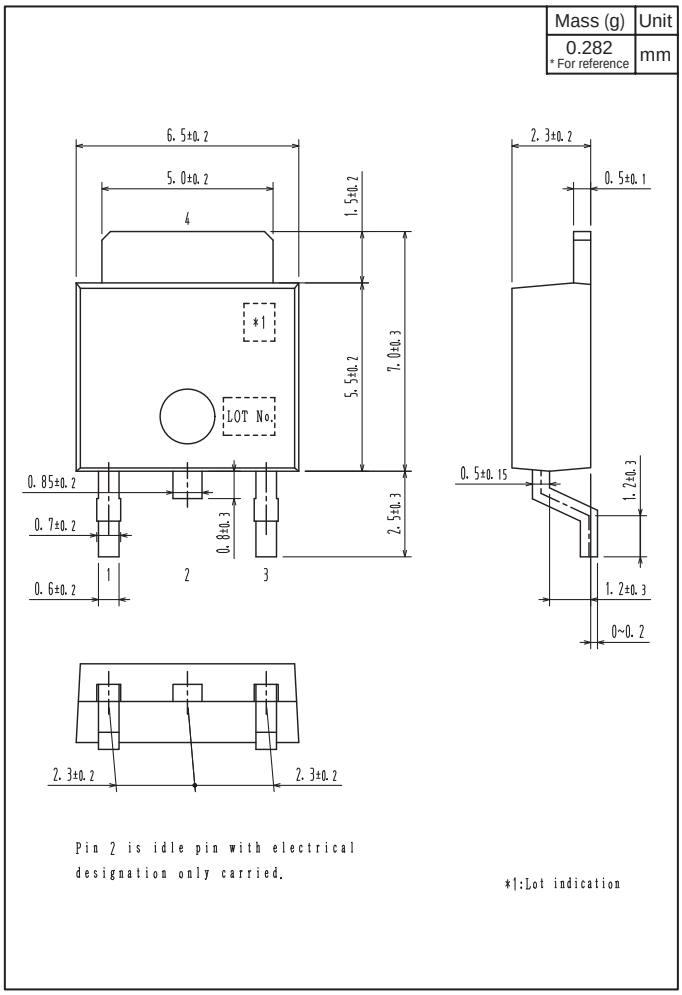



PC – Tc
2SA1552 / 2SC4027
Collector Dissipation, PC – W
16
15
14
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
160
Case Temperature, Tc – °C
IT10479

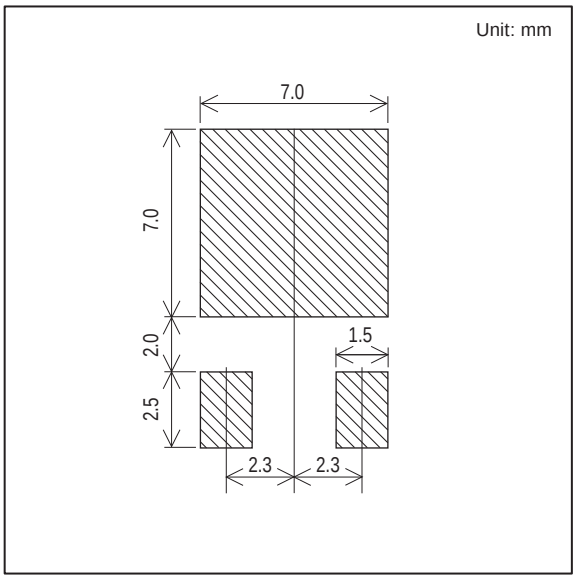
2SA1552 / 2SC4027

Outline Drawing

2SA1552S-TL-E, 2SA1552S-TL-H, 2SA1552T-TL-E, 2SA1552T-TL-H, 2SC4027S-TL-E, 2SC4027S-TL-H, 2SC4027T-TL-E, 2SC4027T-TL-H



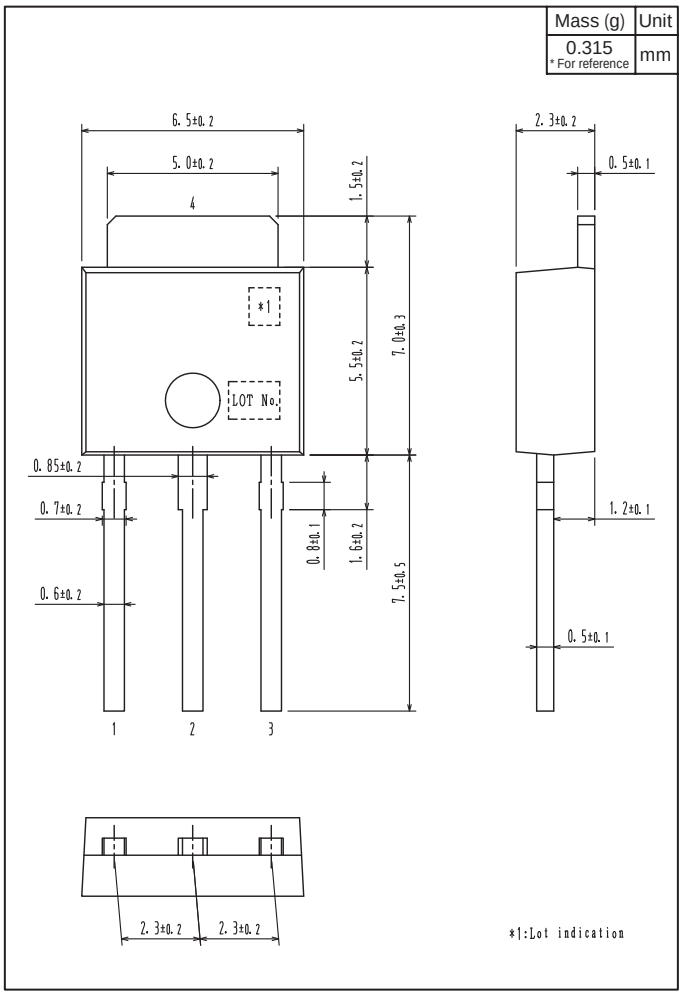
Land Pattern Example



2SA1552 / 2SC4027

Outline Drawing

2SA1552S-E, 2SA1552S-H, 2SA1552T-E, 2SA1552T-H, 2SC4027S-E, 2SC4027S-H, 2SC4027T-E, 2SC4027T-H



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