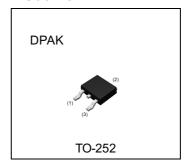


Parameter	Value
V _{CEO}	30V
IC	5A

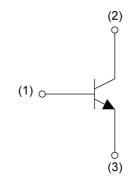
Outline



Features

- 1) Suitable for Power Driver.
- 2) Complementary PNP Types: 2SAR572D3.
- 3) Low $V_{CE(sat)}$ $V_{CE(sat)}$ =400mV(Max.). (I_C/I_B =2A/100mA)

●Inner circuit



- (1) Base
- (2) Collector
- (3) Emitter

Application

LOW FREQUENCY AMPLIFIER

Packaging specifications

Part No.	Package	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
200057202	TO-252	TL	330	16	2500	2SCR572D3
2SCR572D3	10-252	TL1	330			

● Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Values	Unit
Collector-base voltage		30	V
Collector-emitter voltage		30	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I _C	5	Α
Collector current	I _{CP} *1	10	Α
Power dissipation	P _D *2	10	W
Junction temperature	T _j	150	°C
Range of storage temperature	T _{stg}	-55 to +150	°C

● Electrical characteristics (T_a = 25°C)

Parameter Symbol		Conditions	Values			Lloit
Parameter	Symbol	Conditions	Min.	Тур.	Max.	Unit
Collector-base breakdown voltage	BV_CBO	I _C = 100μA	30	ı	1	V
Collector-emitter breakdown voltage	BV _{CEO}	I _C = 1mA	30	1	1	V
Emitter-base breakdown voltage	BV_{EBO}	I _E = 100μA	6	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} = 30V	-	-	1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 4V	-	-	1	μA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 2A, I _B = 100mA	-	200	400	mV
DC current gain	h _{FE}	$V_{CE} = 3V, I_{C} = 500 \text{mA}$	200	ı	500	-
Transition frequency	f _T *3	$V_{CE} = 10V, I_{E} = -500mA,$ f = 100MHz	-	300	-	MHz
Output capacitance	C_ob	$V_{CB} = 10V$, $I_E = 0A$, $f = 1MHz$	ı	30	1	pF
Turn-On time	t _{on}	I _C = 2.5A, I _{B1} = 250mA,	ı	100	ı	ns
Storage time	t_{stg}	$I_{B2} = -250 \text{mA},$ $V_{CC} \approx 10 \text{V},$	ı	350	ı	ns
Fall time	t _f	$R_L = 4\Omega$ See test circuit	-	250	-	ns

^{*1} Pw=10ms Single Pulse

^{*2} Tc=25℃

^{*3} Pulsed

● Electrical characteristic curves(T_a = 25°C)

Fig.1 Grounded Emitter Propagation Characteristics

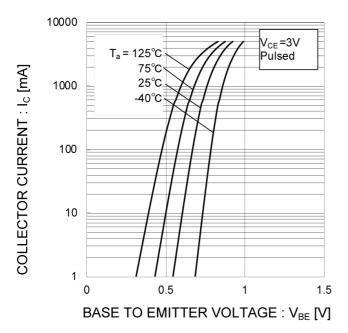
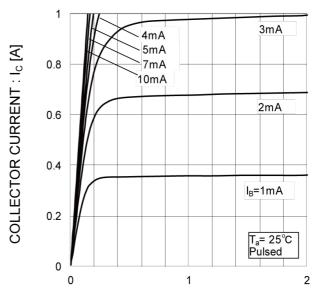


Fig.2 Typical Output Characteristics



COLLECTOR TO EMITTER VOLTAGE: VCE [V]

Fig.3 DC Current Gain vs. Collector Current(I)

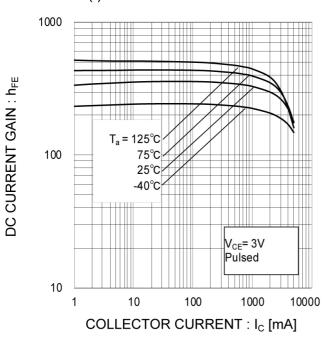
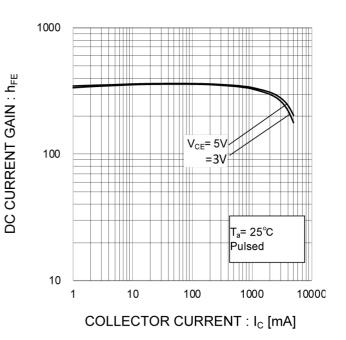


Fig.4 DC Current Gain vs. Collector Current(II)



● Electrical characteristic curves(T_a = 25°C)

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current(I)

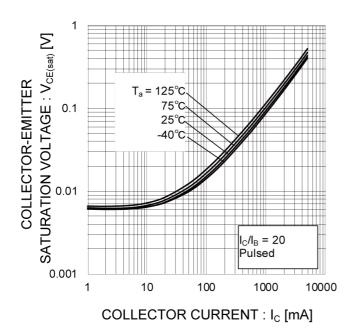


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

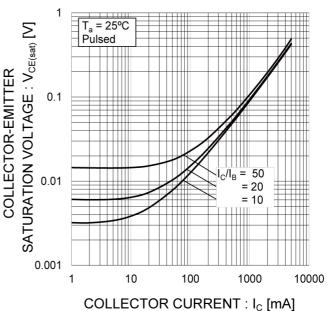


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

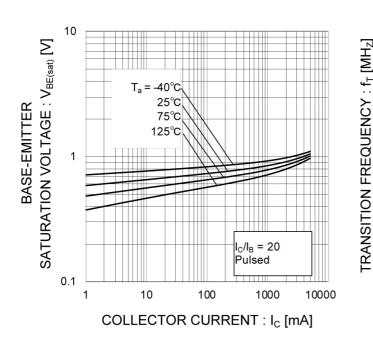
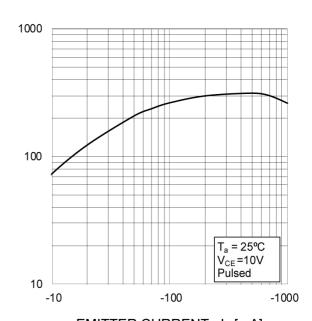


Fig.8 Gain Bandwidth Product vs. Emitter Current



EMITTER CURRENT : IE [mA]

● Electrical characteristic curves(T_a = 25°C)

Fig.9 Emitter input capacitance vs.

Emitter-Base Voltage

Collector output capacitance vs.

Collector-Base Voltage

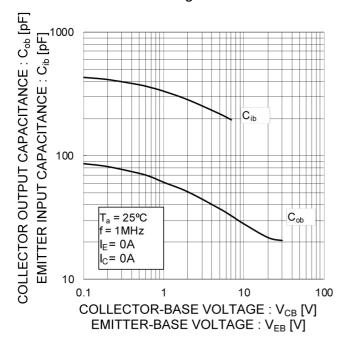
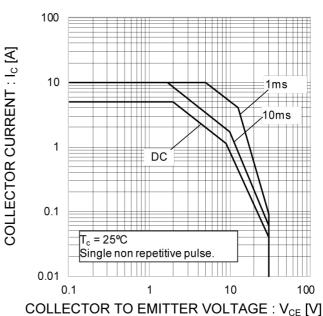
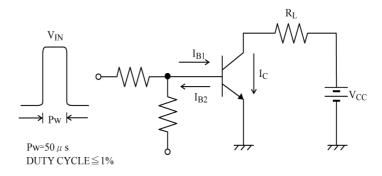
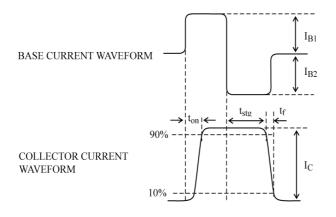


Fig.10 Safe Operating Area

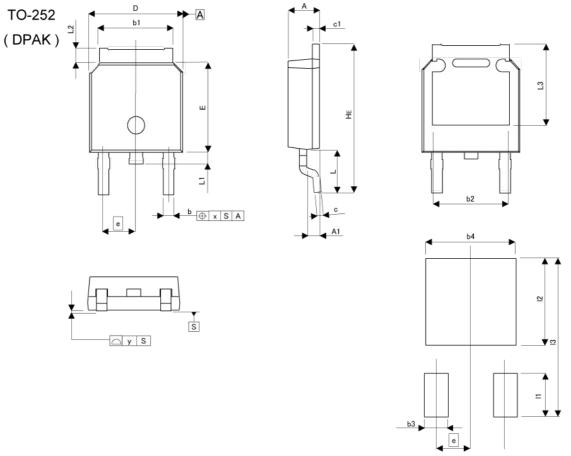


SWITCHING TIME TEST CIRCUIT





ullet Dimensions (TL)



Pattern of terminal position areas [Not a recommended pattern of soldering pads]

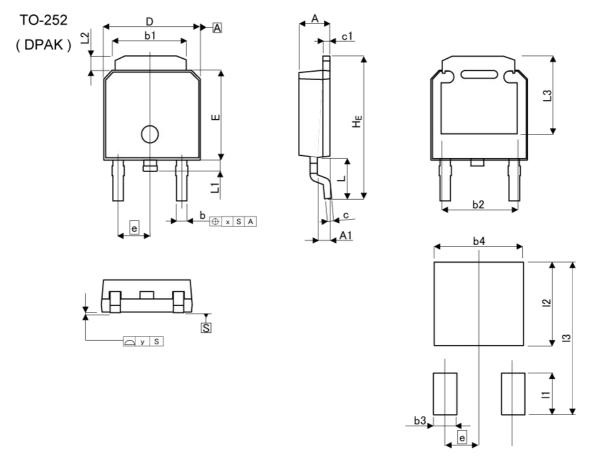
DIM	MILIMETERS INCHES			HES
DIM	MIN	MAX	MIN	MAX
Α	2.10	2.30	0.083	0.091
A1	0.70	1.10	0.028	0.043
b	0.65	0.85	0.026	0.033
b1	5.10	5.40	0.201	0.213
b2	5.	10	0.2	.01
С	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.40	6.80	0.252	0.268
е	e 2.30		0.091	
E	6.00	6.40	0.236	0.252
HE	9.50	10.50	0.374	0.413
L	2.	90	0.1	14
L1	0.70	0.90	0.028	0.035
L2	0.70	1.30	0.028	0.051
L3	5.	30	0.2	:09
Х	-	0.10	(-)	0.004
у	-	0.10	-	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b3	-	1.10	12	0.043
b4	-	5.40		0.213
I1	2 .	2.90	12	0.114
12	-	5.50	-	0.217
13	2	10.50	12	0.413

Dimension in mm/inches



● Dimensions (TL1)



Pattern of terminal position areas [Not a recommended pattern of soldering pads]

DIM	MILIME	ETERS	INC	HES	
DIM	MIN	MAX	MIN	MAX	
Α	2.20	2.40	0.087	0.094	
A1	0.70	1.10	0.028	0.043	
b	0.60	0.90	0.024	0.035	
b1	5.20	5.50	0.205	0.217	
b2	5.	35	0.2	211	
С	0.40	0.60	0.016	0.024	
c1	0.40	0.60	0.016	0.024	
D	6.40	6.80	0.252	0.268	
е	2.30		0.091		
E	6.00	6.40	0.236	0.252	
HE	9.40	10.40	0.370	0.409	
L	2.	70	0.1	0.106	
L1	0.60	1.00	0.024	0.039	
L2	0.70	1.30	0.028	0.051	
L3	5.30		0.2	209	
Х	-	0.25	-	0.010	
У		0.10	-	0.004	

DIM	MILIMETERS		INCHES		
Dilvi	MIN	MAX	MIN	MAX	
b3	27	1.15	말	0.045	
b4	(-)(5.55	-	0.219	
11	-	2.77	2	0.109	
12	1-0	5.50	-	0.217	
13		10.40		0.409	

Dimension in mm/inches



Notice

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1. Our Products are designed and manufactured for application in ordinary electronic equipments (such as AV equipment, OA equipment, telecommunication equipment, home electronic appliances, amusement equipment, etc.). If you intend to use our Products in devices requiring extremely high reliability (such as medical equipment (Note 1), transport equipment, traffic equipment, aircraft/spacecraft, nuclear power controllers, fuel controllers, car equipment including car accessories, safety devices, etc.) and whose malfunction or failure may cause loss of human life, bodily injury or serious damage to property ("Specific Applications"), please consult with the ROHM sales representative in advance. Unless otherwise agreed in writing by ROHM in advance, ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of any ROHM's Products for Specific Applications.

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JÁPAN	USA	EU	CHINA
CLASSⅢ	ОГУООШ	CLASS II b	CL ACCIII
CLASSIV	CLASSⅢ	CLASSⅢ	CLASSⅢ

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 - [c] Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl₂, H₂S, NH₃, SO₂, and NO₂
 - [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
 - [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
 - [f] Sealing or coating our Products with resin or other coating materials
 - [g] Use of our Products without cleaning residue of flux (even if you use no-clean type fluxes, cleaning residue of flux is recommended); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
 - [h] Use of the Products in places subject to dew condensation
- 4. The Products are not subject to radiation-proof design.
- 5. Please verify and confirm characteristics of the final or mounted products in using the Products.
- 6. In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse. is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- 7. De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
- 8. Confirm that operation temperature is within the specified range described in the product specification.
- 9. ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

Precaution for Mounting / Circuit board design

- 1. When a highly active halogenous (chlorine, bromine, etc.) flux is used, the residue of flux may negatively affect product performance and reliability.
- 2. In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

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- 1. If change is made to the constant of an external circuit, please allow a sufficient margin considering variations of the characteristics of the Products and external components, including transient characteristics, as well as static characteristics.
- You agree that application notes, reference designs, and associated data and information contained in this document are presented only as guidance for Products use. Therefore, in case you use such information, you are solely responsible for it and you must exercise your own independent verification and judgment in the use of such information contained in this document. ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of such information.

Precaution for Electrostatic

This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of lonizer, friction prevention and temperature / humidity control).

Precaution for Storage / Transportation

- 1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
 - [a] the Products are exposed to sea winds or corrosive gases, including Cl2, H2S, NH3, SO2, and NO2
 - [b] the temperature or humidity exceeds those recommended by ROHM
 - [c] the Products are exposed to direct sunshine or condensation
 - [d] the Products are exposed to high Electrostatic
- 2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
- 3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
- 4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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