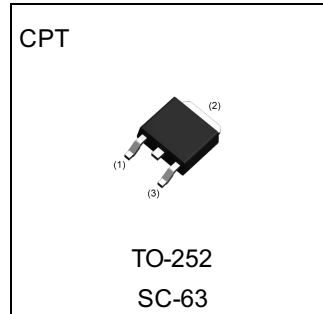


Parameter	Value
V_{CEO}	-80V
I_C	-2A

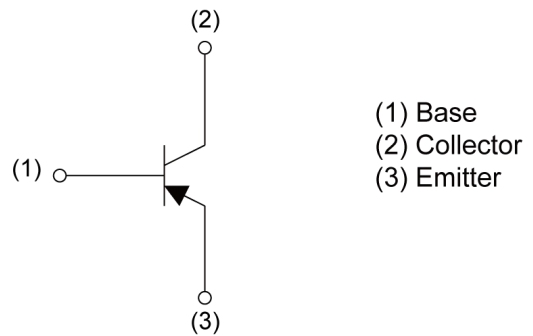
●Outline



●Features

- 1) Suitable for Middle Power Driver.
- 2) Complementary NPN Types : 2SCR574D.
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)} = -400\text{mV (Max.)}$
 $(I_C/I_B = -1A/-50\text{mA})$

●Inner circuit



●Application

LOW FREQUENCY AMPLIFIER

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
2SAR574D	CPT	6595	TL	330	16	2500	AR574

● Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	-80	V
Collector-emitter voltage	V_{CEO}	-80	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_{C}	-2	A
	I_{CP}^{*1}	-4	A
Base current	I_{B}	-0.5	A
Power dissipation	P_{D}^{*2}	10	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Range of storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

● Electrical characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	$I_{\text{C}} = -100\mu\text{A}$	-80	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_{\text{C}} = -1\text{mA}$	-80	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_{\text{E}} = -100\mu\text{A}$	-6	-	-	V
Collector cut-off current	I_{CBO}	$V_{\text{CB}} = -80\text{V}$	-	-	-1	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}} = -4\text{V}$	-	-	-1	μA
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -1\text{A}, I_{\text{B}} = -50\text{mA}$	-	-200	-400	mV
DC current gain	h_{FE}	$V_{\text{CE}} = -3\text{V}, I_{\text{C}} = -100\text{mA}$	120	-	390	-
Transition frequency	f_{T}^{*3}	$V_{\text{CE}} = -10\text{V}, I_{\text{E}} = 500\text{mA}, f = 100\text{MHz}$	-	280	-	MHz
Output capacitance	C_{ob}	$V_{\text{CB}} = -10\text{V}, I_{\text{E}} = 0\text{A}, f = 1\text{MHz}$	-	30	-	pF
Turn-On time	t_{on}	$I_{\text{C}} = -1\text{A}, I_{\text{B1}} = -100\text{mA}, I_{\text{B2}} = 100\text{mA}, V_{\text{CC}} \approx -10\text{V}, R_{\text{L}} = 10\Omega$ See test circuit	-	50	-	ns
Storage time	t_{stg}		-	300	-	ns
Fall time	t_{f}		-	100	-	ns

*1 Pw=10ms Single Pulse

*2 Tc=25°C

*3 PULSED

● Electrical characteristic curves ($T_a = 25^\circ\text{C}$)

Fig.1 Grounded Emitter Propagation Characteristics

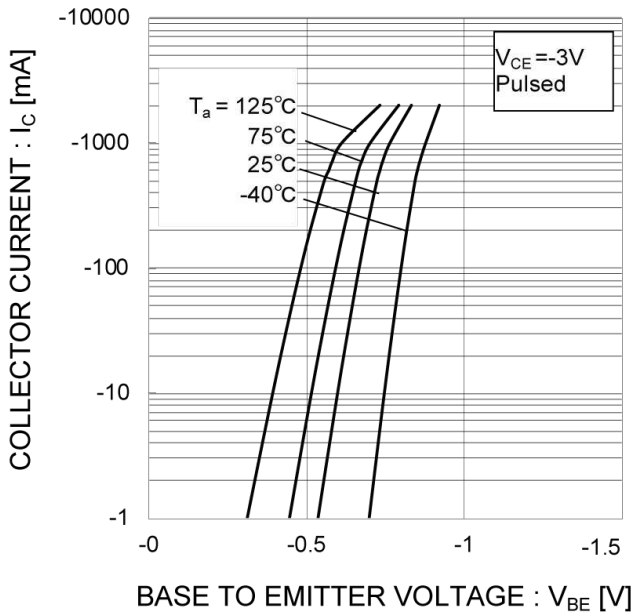


Fig.2 Typical Output Characteristics

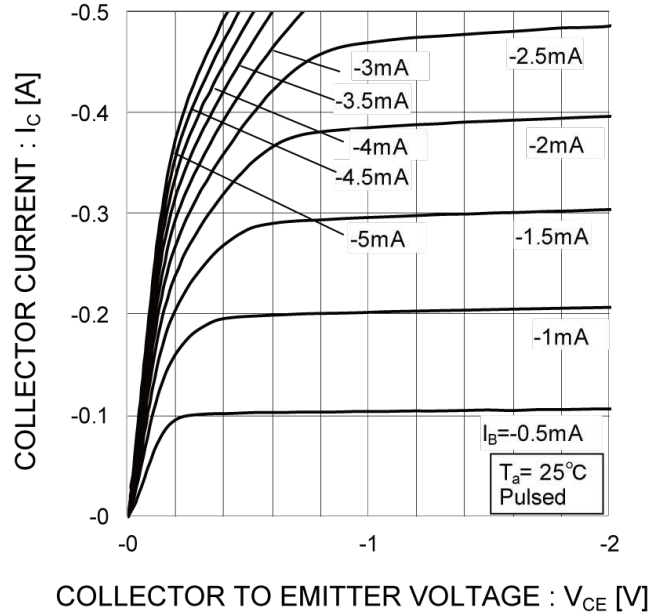


Fig.3 DC Current Gain vs. Collector Current(I)

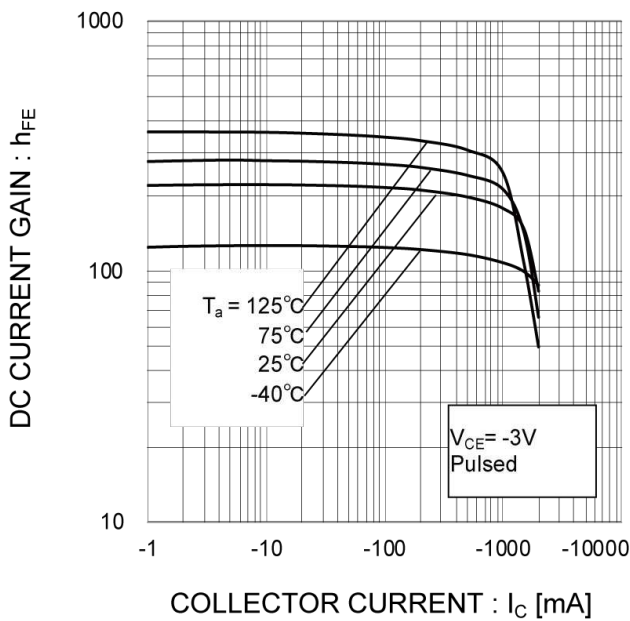
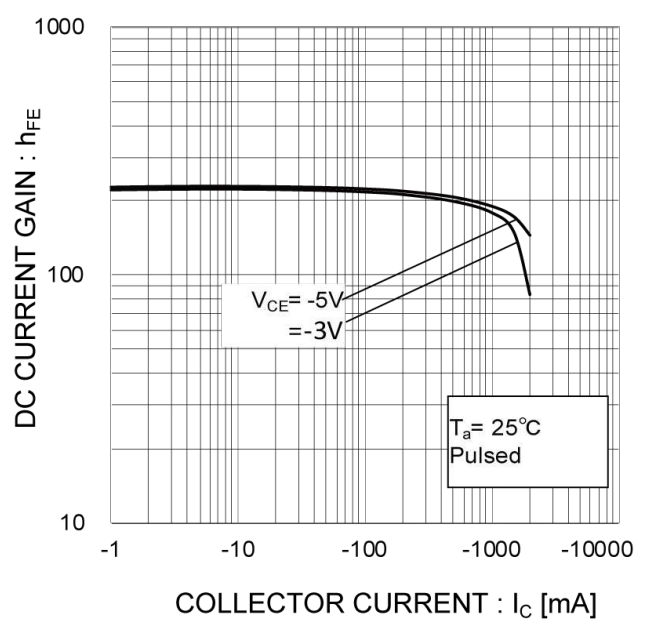


Fig.4 DC Current Gain vs. Collector Current(II)



● Electrical characteristic curves ($T_a = 25^\circ\text{C}$)

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

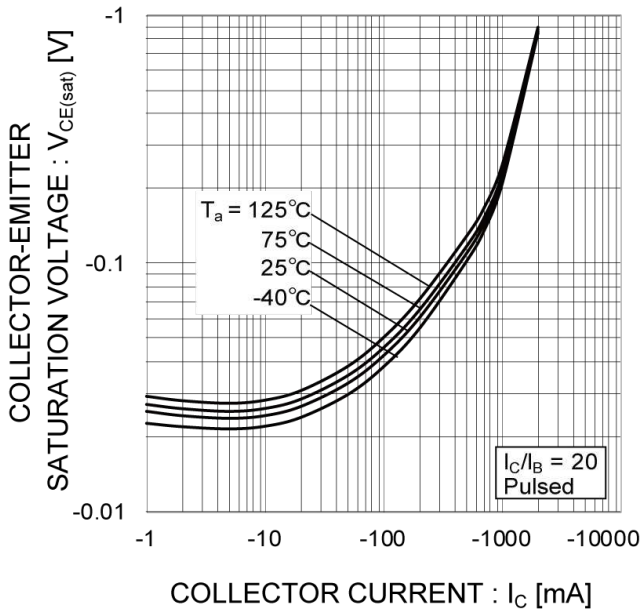


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

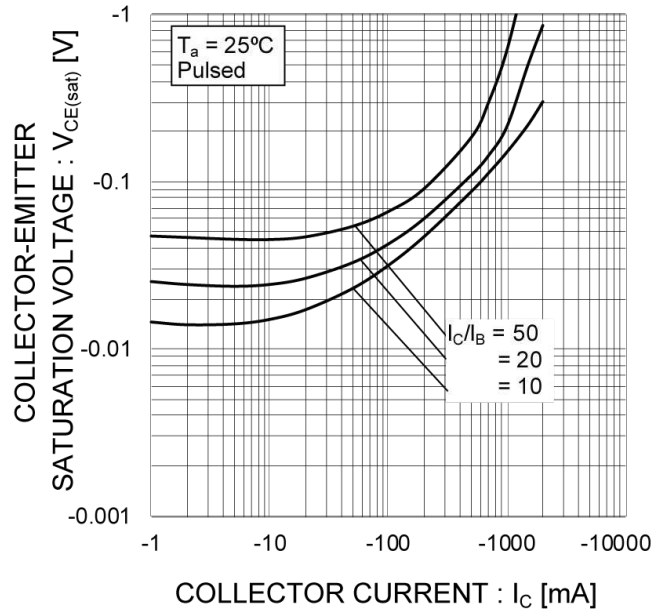


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

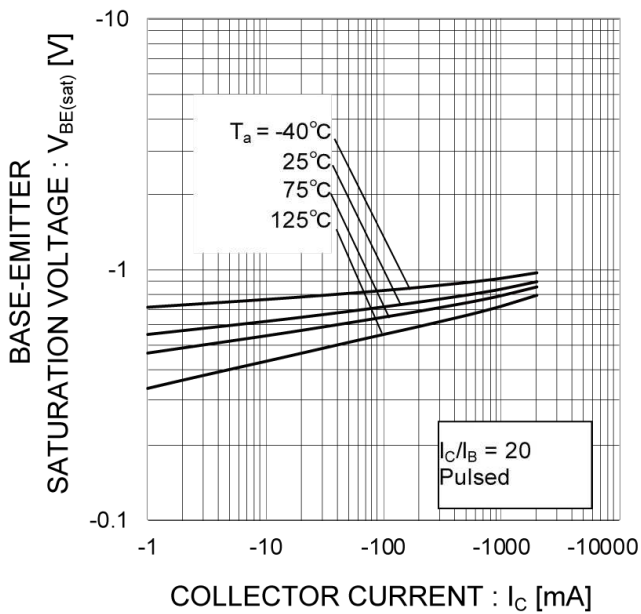
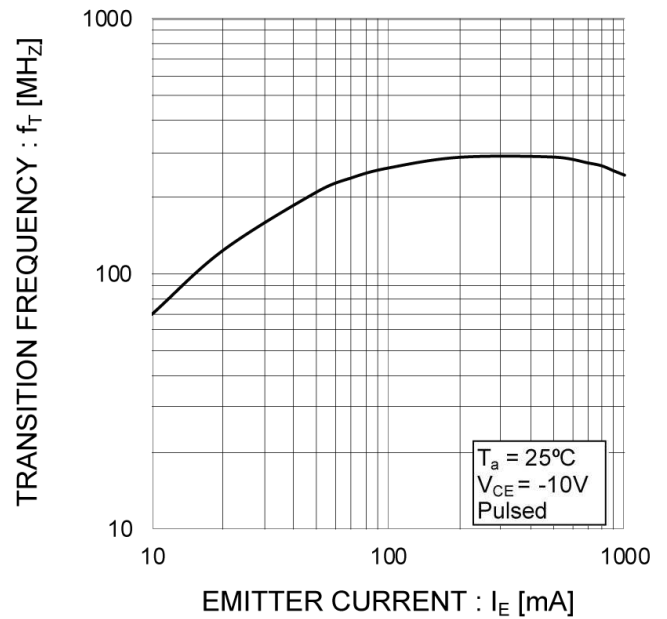


Fig.8 Gain Bandwidth Product vs. Emitter Current



● Electrical characteristic curves ($T_a = 25^\circ\text{C}$)

Fig.9 Emitter input capacitance vs. Emitter-Base Voltage
Collector output capacitance vs. Collector-Base Voltage

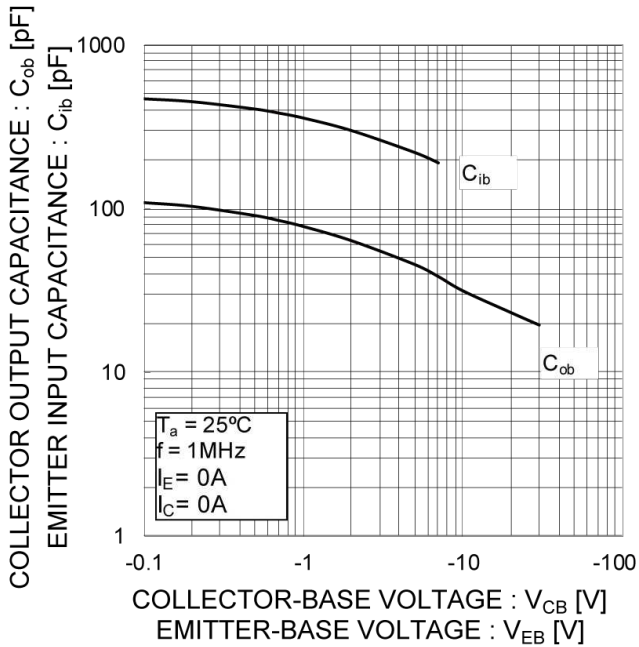
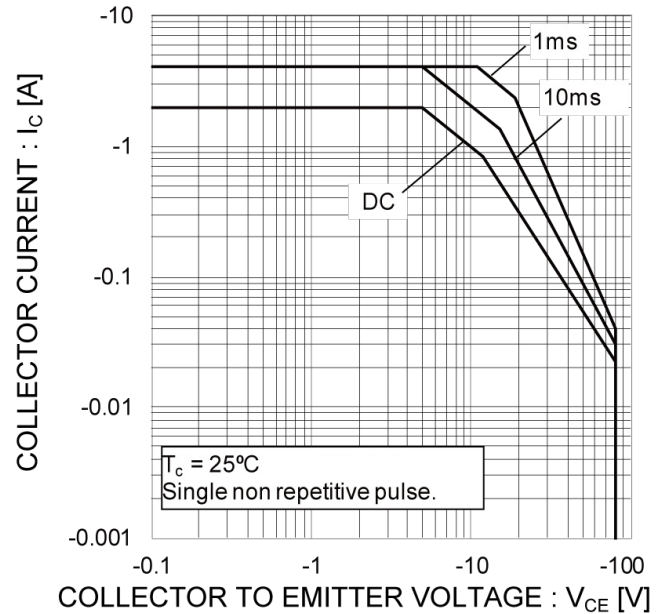
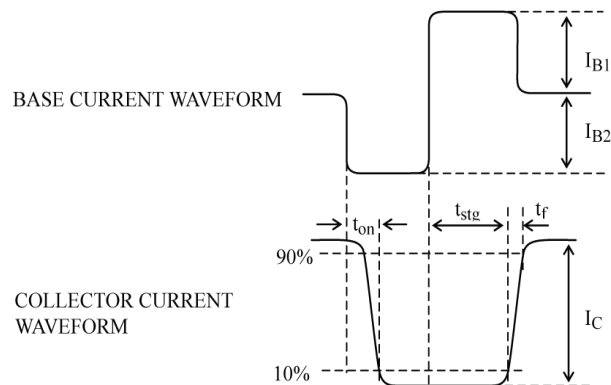
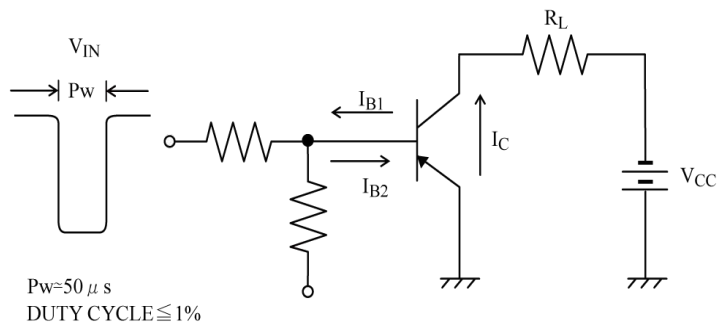


Fig.10 Safe Operating Area

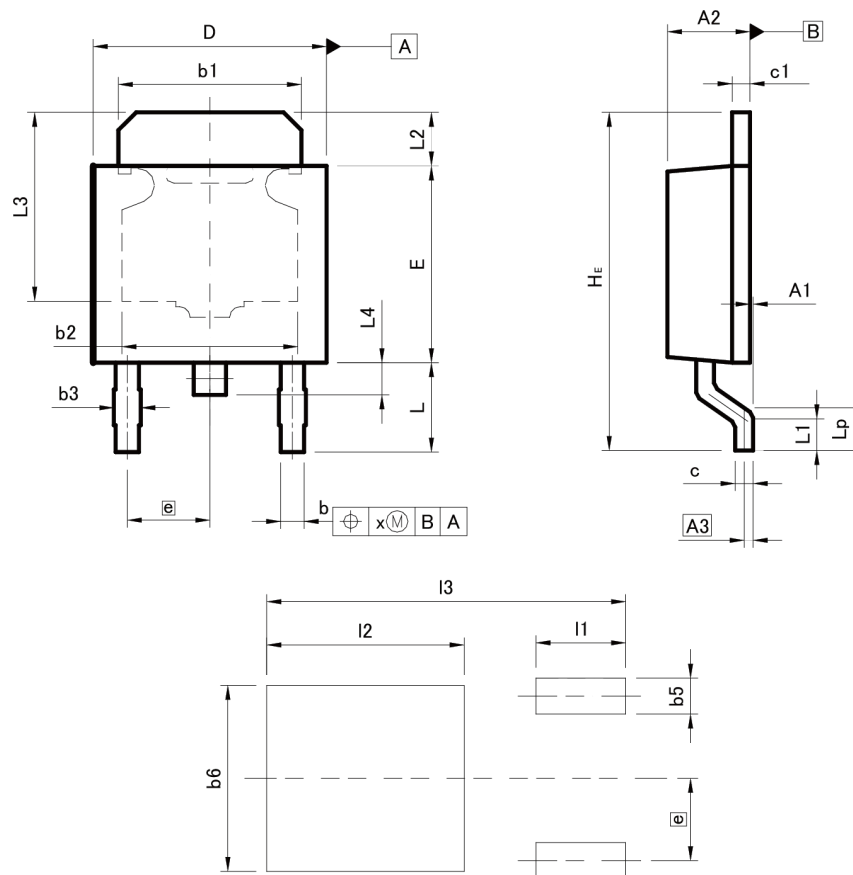


SWITCHING TIME TEST CIRCUIT



●Dimensions

CPT



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

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A1	0.00	0.15	0.000	0.006
A2	2.20	2.50	0.087	0.098
A3	0.25		0.010	
b	0.55	0.75	0.022	0.030
b1	5.00	5.30	0.197	0.209
b2	5.00		0.197	
b3	0.75		0.030	
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.30	6.70	0.248	0.264
E	5.40	5.80	0.213	0.228
e	2.30		0.091	
HE	9.00	10.00	0.354	0.394
L	2.20	2.80	0.087	0.110
L1	0.80	1.40	0.031	0.055
L2	1.20	1.80	0.047	0.071
L3	5.30		0.209	
L4	0.90		0.035	
Lp	1.00	1.60	0.039	0.063
x	-	0.25	-	0.010

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b5	-	1.00	-	0.04
b6	-	5.20	-	0.205
l1	-	2.50	-	0.098
l2	-	5.50	-	0.217
l3	-	10.00	-	0.394

Dimension in mm/inches

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