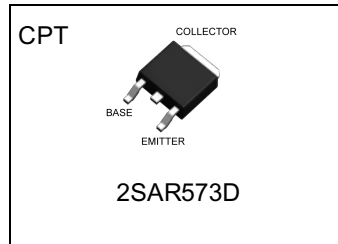


Parameter	Value
V_{CEO}	-50V
I_C	-3A

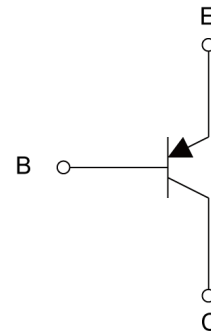
●Outline



●Features

- 1) Suitable for Middle Power Driver.
- 2) Complementary NPN Types : 2SCR573D.
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)} = -0.40V(\text{Max.})$
 $(I_C/I_B = -1A/-50mA)$
- 4) Lead Free/Rohs Compliant

●Inner circuit



B: BASE
 C: COLLECTOR
 E: EMITTER

●Application

Motor driver, LED driver
 Power supply

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
2SAR573D	CPT	6595	TL	330	16	2500	AR573

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

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_C	-3	A
	I_{CP}^{*1}	-6	A
Base current	I_B	-0.8	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}	$I_C = -100\mu\text{A}$	-50	-	-	V	
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}$	-50	-	-	V	
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu\text{A}$	-6	-	-	V	
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{V}$	-	-	-1	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}$	-	-	-1	μA	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -50\text{mA}$	-	-200	-400	mV	
DC current gain	h_{FE}	$V_{CE} = -3\text{V}, I_C = -100\text{mA}$	180	-	450	-	
Transition frequency	f_T^{*3}	$V_{CE} = -10\text{V}, I_E = 200\text{mA}, f = 100\text{MHz}$	-	300	-	MHz	
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	-	35	-	pF	
Turn-On time	t_{on}^{*4}	$I_C = -1.5\text{A}, V_{CC} = -10\text{V}$	-	50	-	ns	
Storage time	t_{stg}^{*4}		$I_{B1} = -150\text{mA}$	-	450	-	ns
Fall time	t_f^{*4}		$I_{B2} = 150\text{mA}$	-	100	-	ns

*1 $P_w=10\text{ms}$ 1PULSE

*2 $T_c=25^\circ\text{C}$

*3 PULSED

*4 SEE SWITCHING TIME TEST CIRCUIT

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

Fig.1 Grounded Emitter Propagation Characteristics

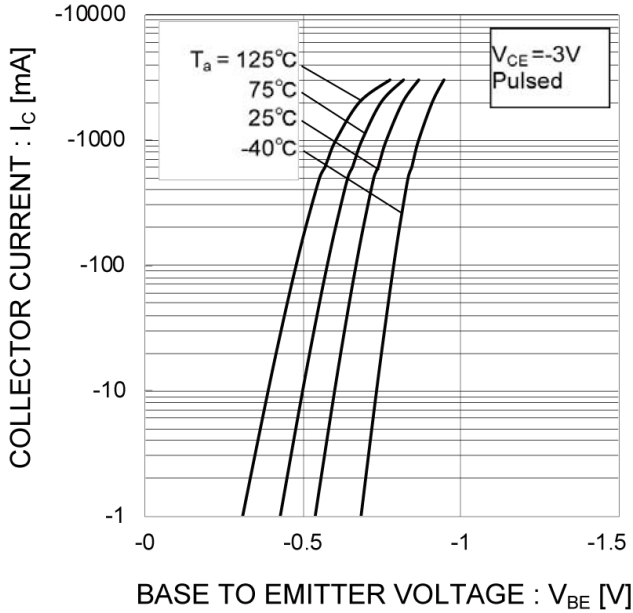


Fig.2 Typical Output Characteristics

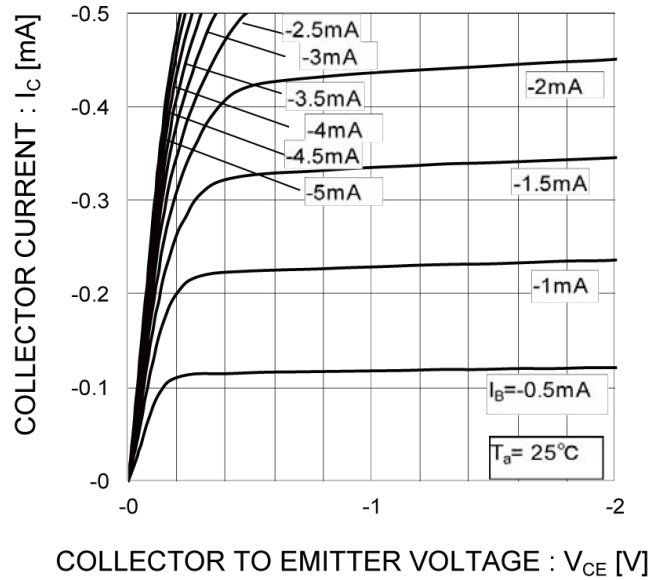


Fig.3 DC Current Gain vs. Collector Current(I)

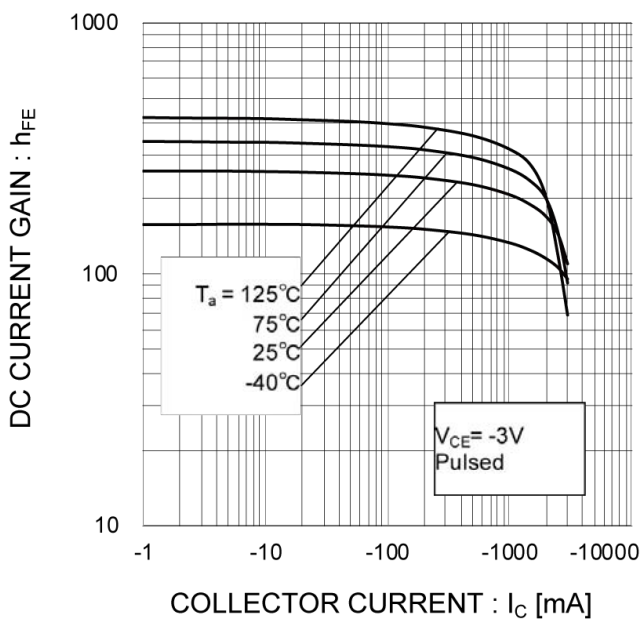
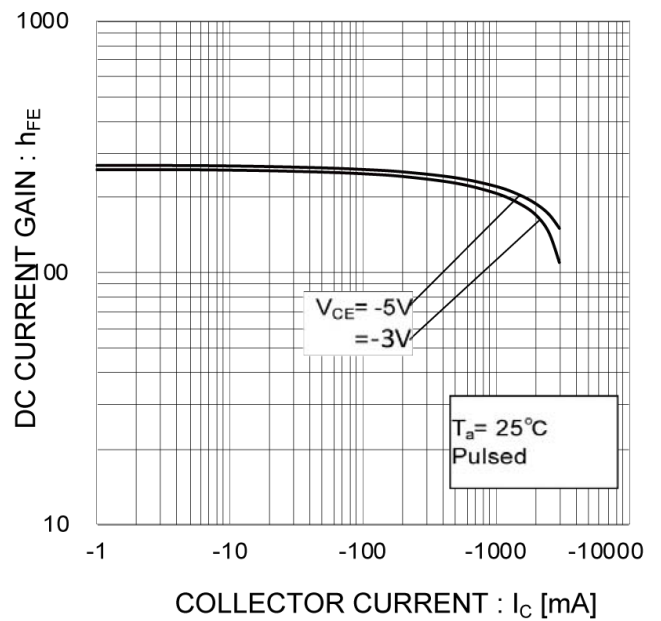


Fig.4 DC Current Gain vs. Collector Current(II)



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

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

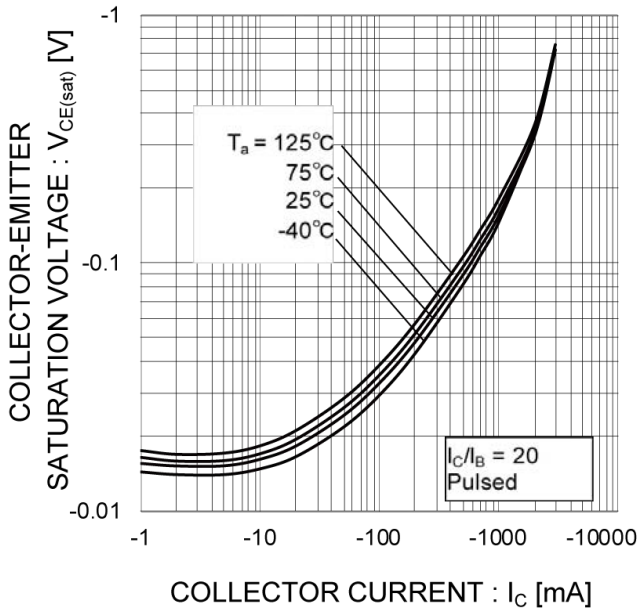


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

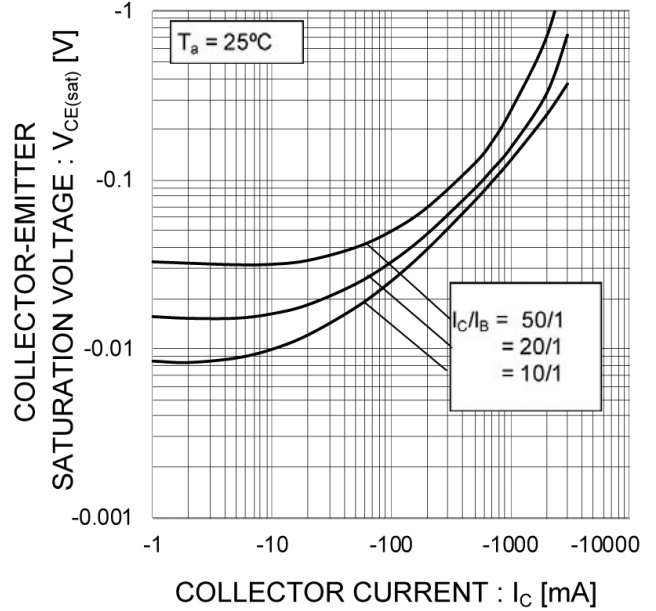


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

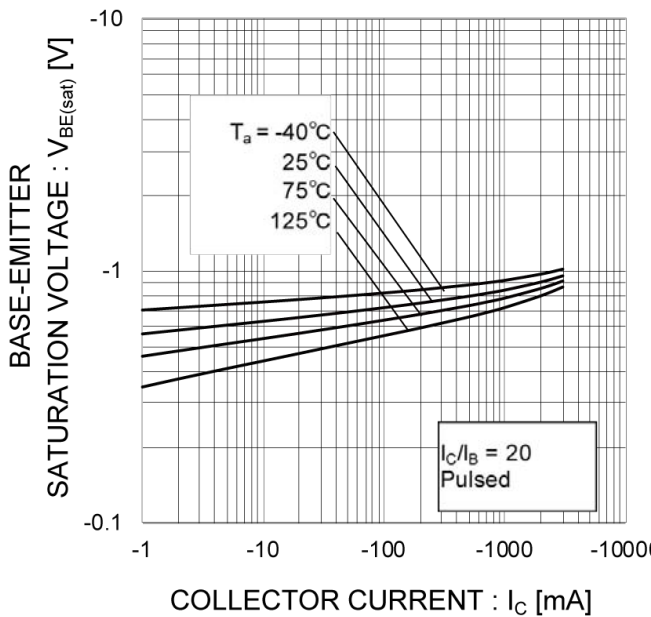
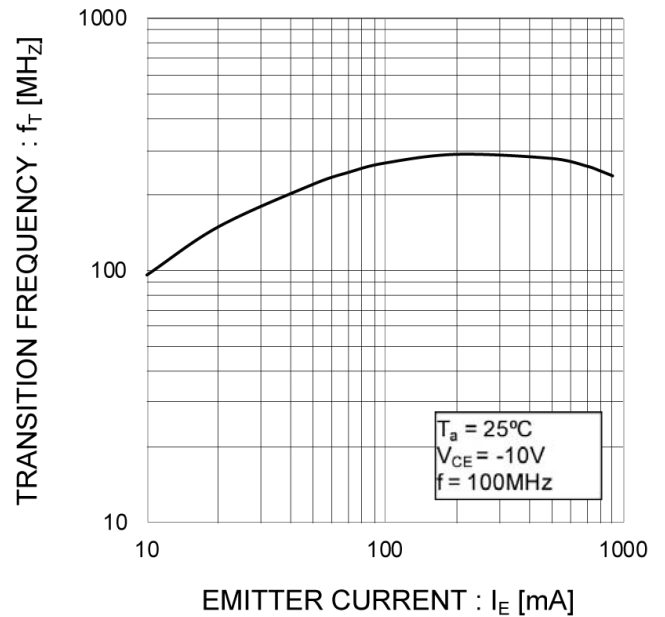


Fig.8 Gain Bandwidth Product vs. Emitter Current



● 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

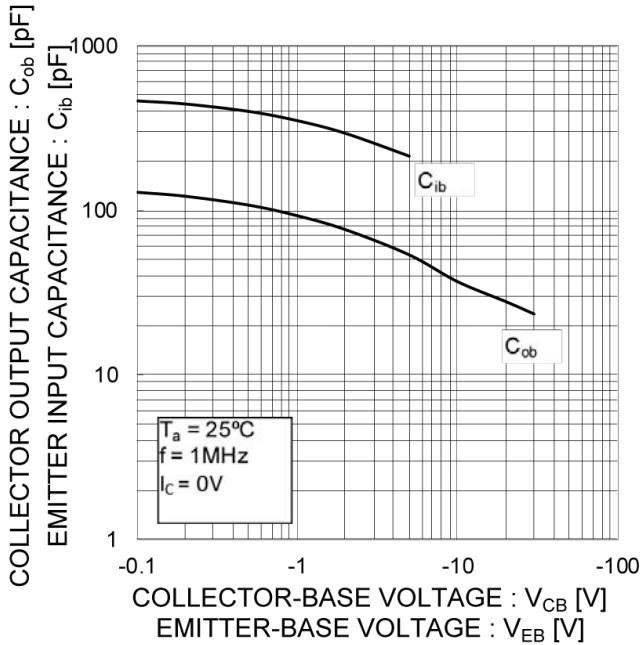
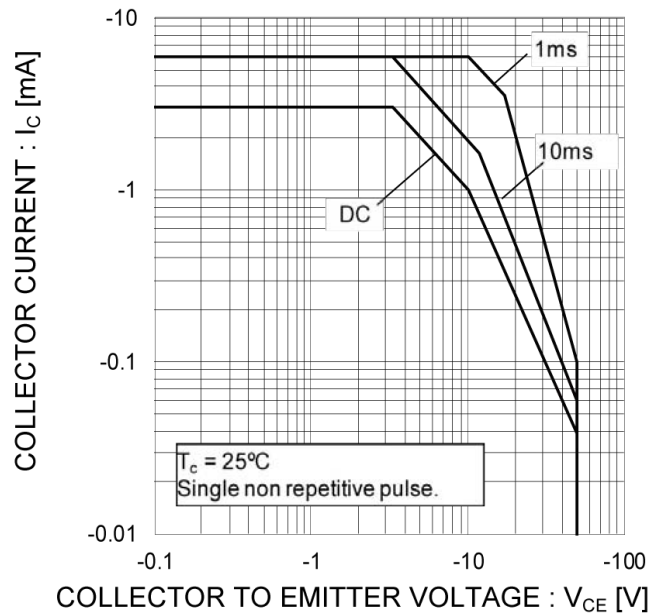
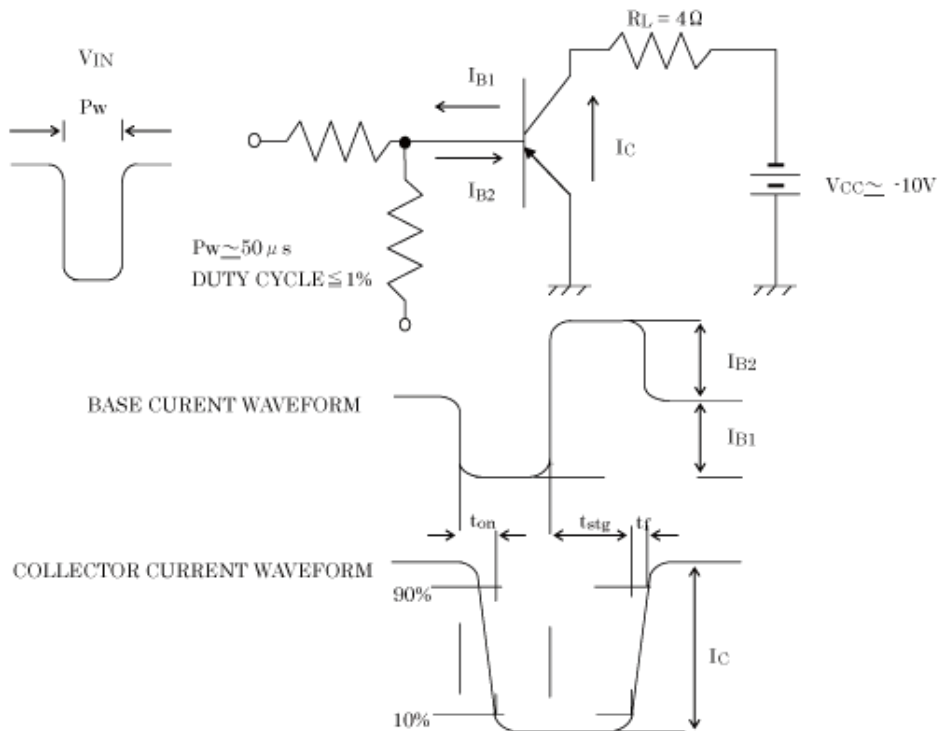


Fig.10 Safe Operating Area

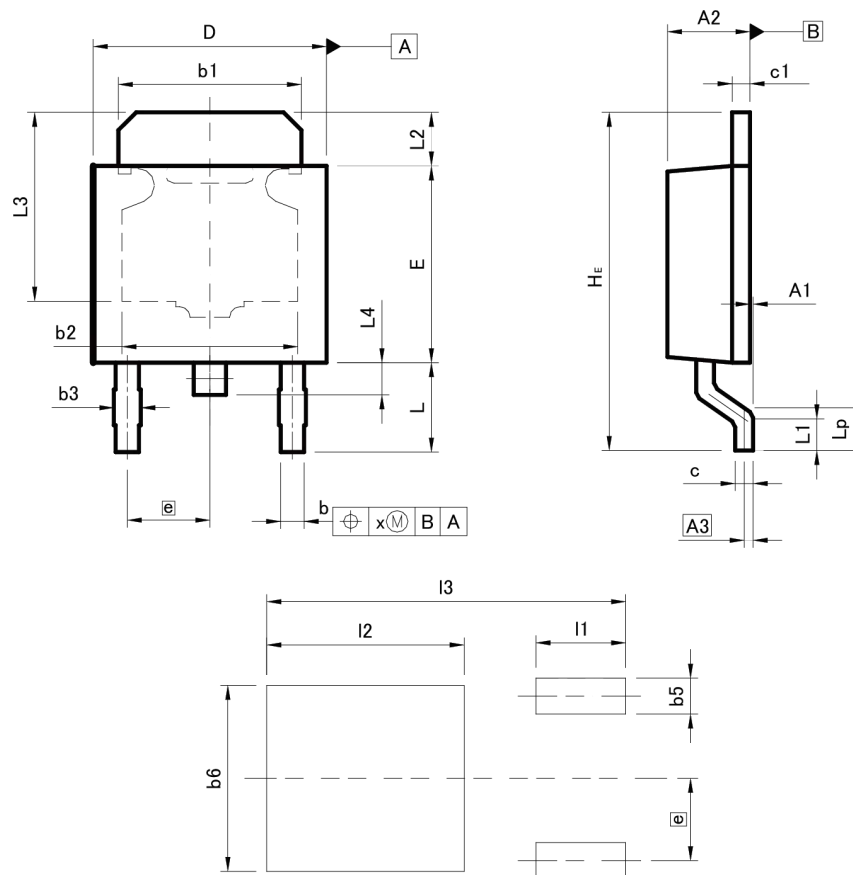


SWITCHING TIME TEST CIRCUIT



●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
I1	-	2.50	-	0.098
I2	-	5.50	-	0.217
I3	-	10.00	-	0.394

Dimension in mm/inches

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