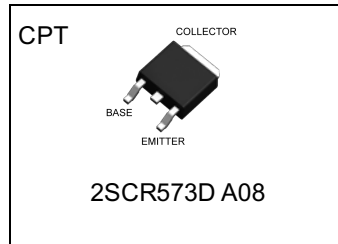


Parameter	Value
V_{CE0}	50V
I_C	3A

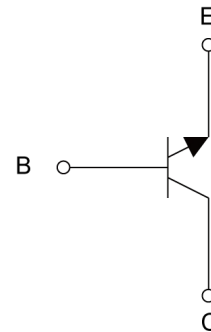
●Outline



●Features

- 1) Suitable for Middle Power Driver.
- 2) Complementary PNP Types : 2SAR573D.
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)}=0.35V(\text{Max.})$
 $(I_C/I_B=1A/50mA)$
- 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
2SCR573D A08	CPT	6595	TL	330	16	2500	CR573

● 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	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 50\text{mA}$	-	130	350	mV	
Base-emitter turn on voltage	$V_{BE(ON)}^{*3}$	$V_{CE} = 1.7\text{V}, I_C = 1\text{A}$ $T_a = -40^\circ\text{C}$	-	-	1.0	V	
DC current gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 100\text{mA}$	180	-	450	-	
Transition frequency	f_T^{*4}	$V_{CE} = 10\text{V}, I_E = -600\text{mA},$ $f = 100\text{MHz}$	-	320	-	MHz	
Output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0\text{A},$ $f = 1\text{MHz}$	-	20	-	pF	
Turn-On time	t_{on}^{*5}	$I_C = 1.5\text{A}, V_{CC} = 10\text{V}$	-	70	-	ns	
Storage time	t_{stg}^{*5}		$I_{B1} = 150\text{mA}$	-	400	-	ns
Fall time	t_f^{*5}		$I_{B2} = -150\text{mA}$	-	120	-	ns

*1 $P_w=10\text{ms}$ 1PULSE *2 $T_c=25^\circ\text{C}$

*3 GUARANTEED IN THE DESIGN

*4 PULSED

*5 SEE SWITCHING TIME TEST CIRCUIT

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

Fig.1 Grounded Emitter Propagation Characteristics

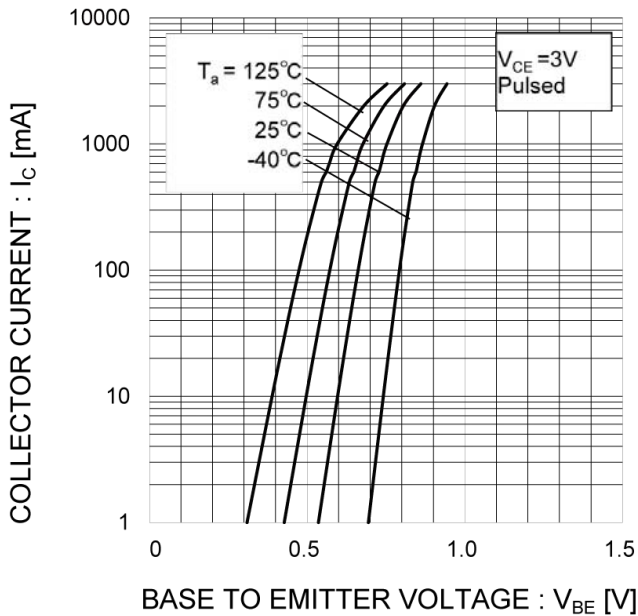


Fig.2 Typical Output Characteristics

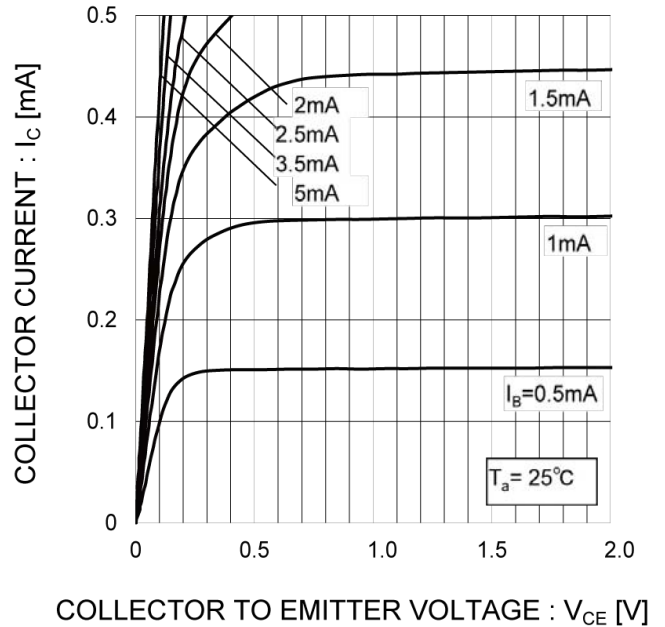


Fig.3 DC Current Gain vs. Collector Current(I)

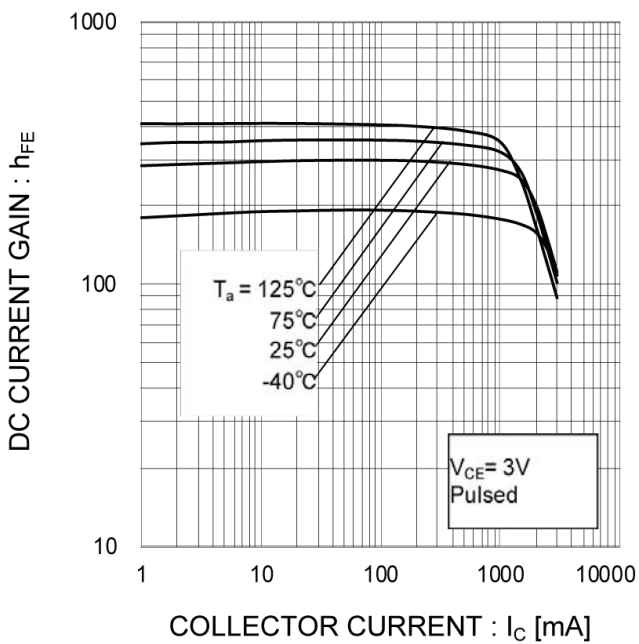
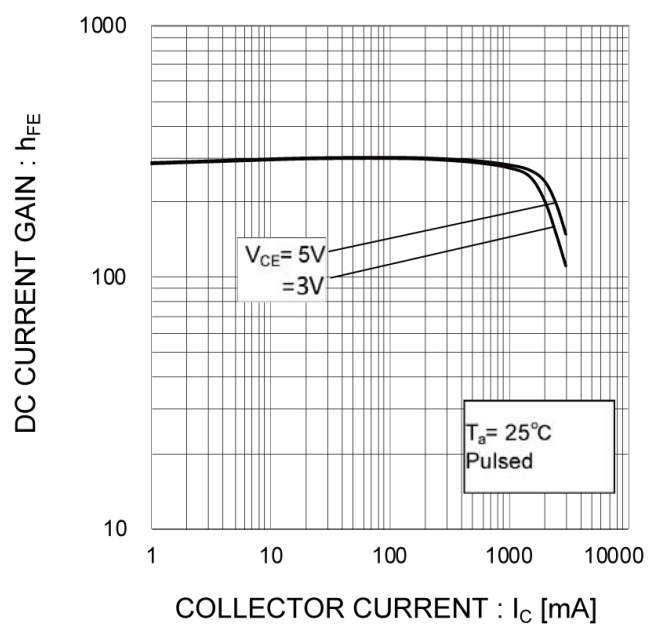


Fig.4 DC Current Gain vs. Collector Current(II)



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

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

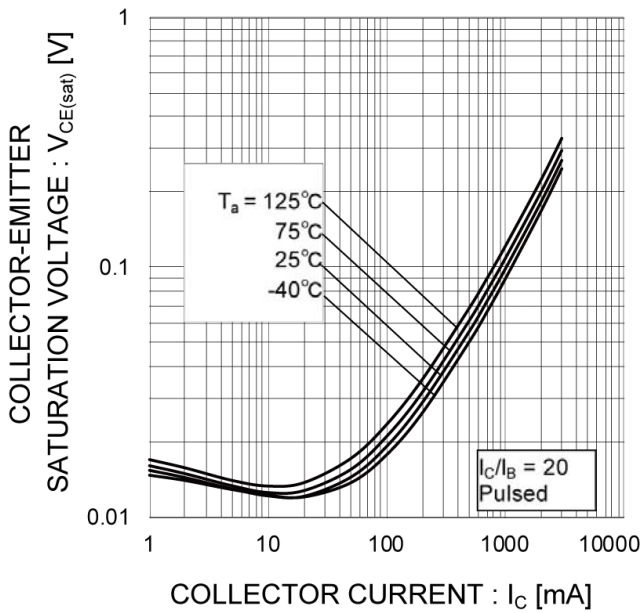


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

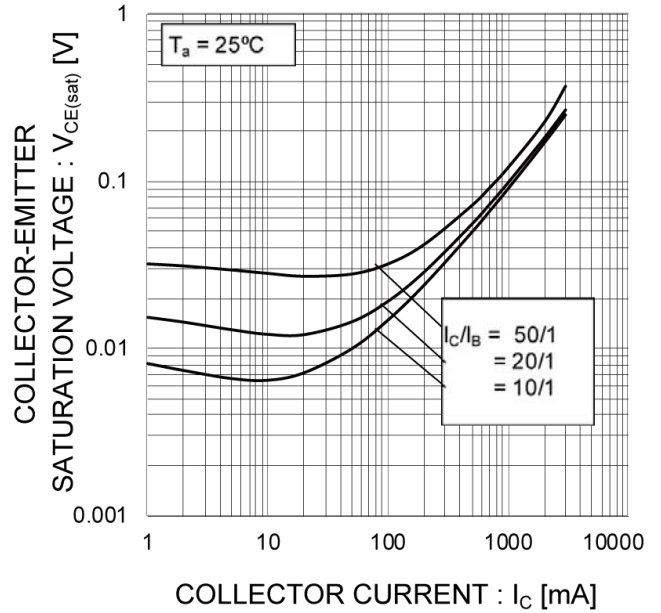


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

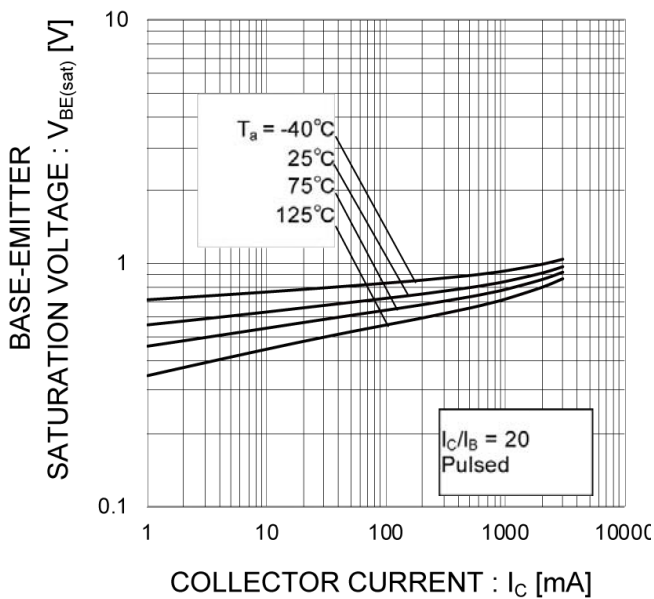
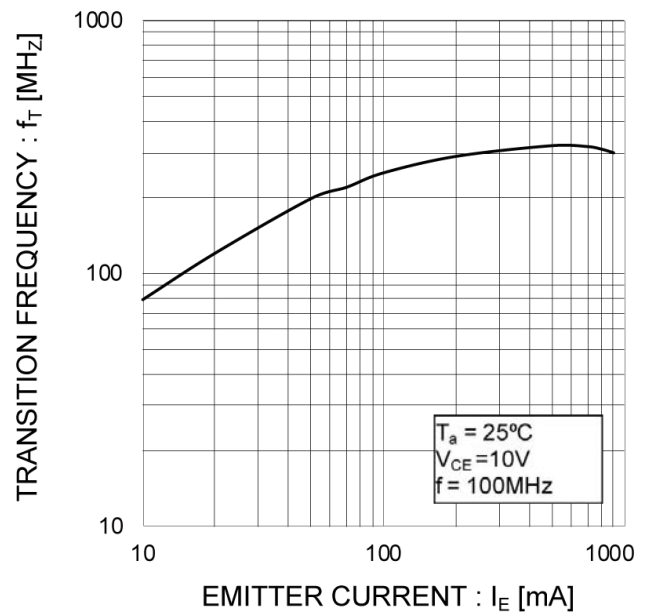


Fig.8 Gain Bandwidth Product vs. Emitter Current



● 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

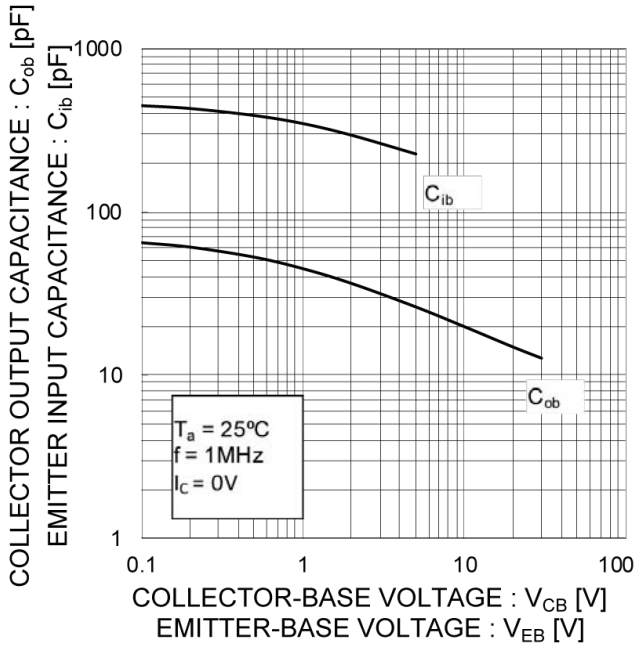
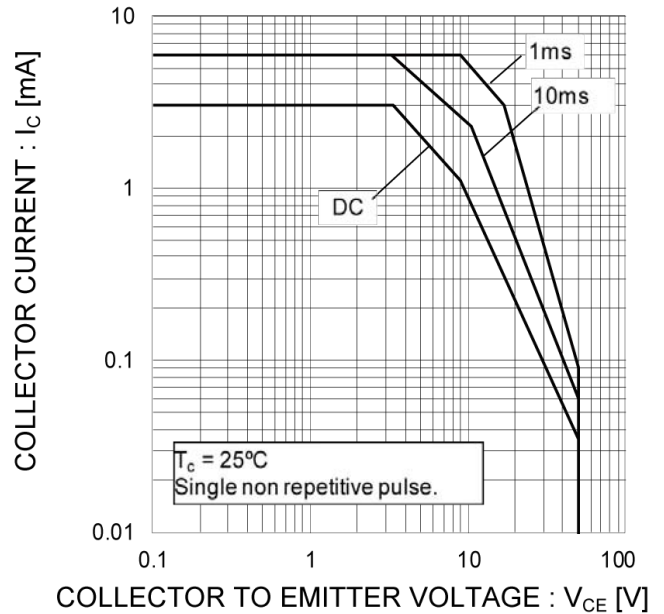
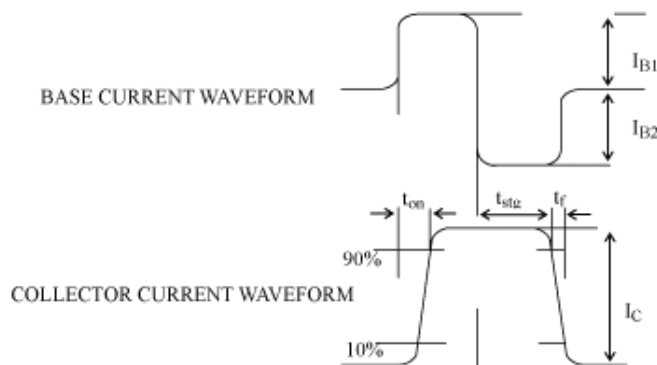
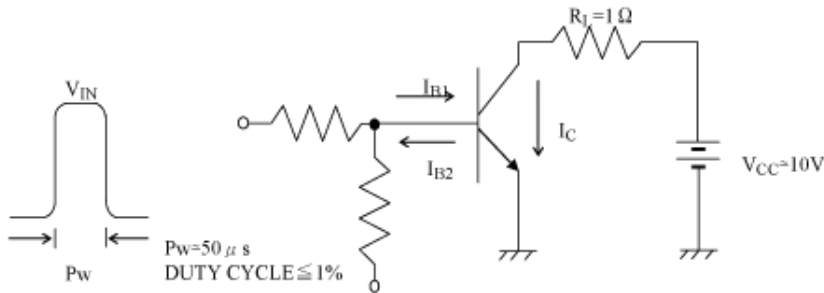


Fig.10 Safe Operating Area

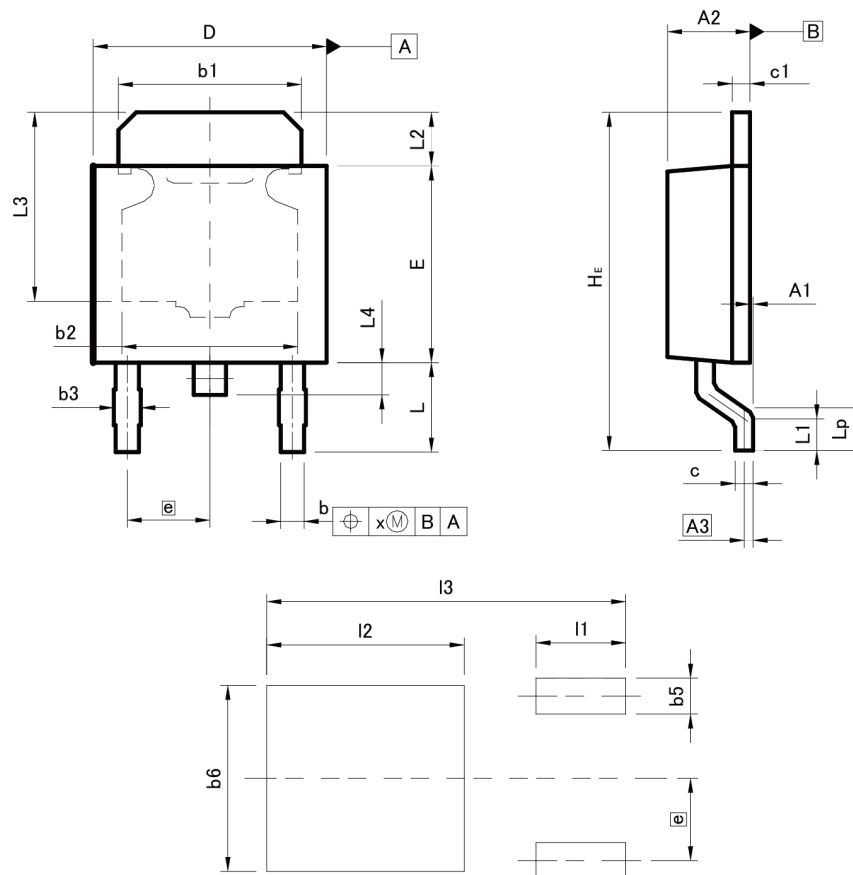


SWITCHING TIME TEST CIRCUIT



●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
l1	-	2.50	-	0.098
l2	-	5.50	-	0.217
l3	-	10.00	-	0.394

Dimension in mm/inches

Notes

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