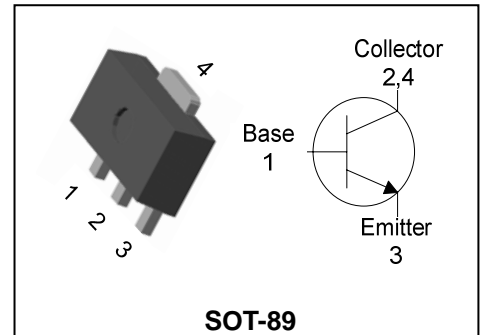


## Description

- Extremely low collector-to-emitter saturation voltage  
( $V_{CE(SAT)}=0.2V$  Typ. @ $I_C/I_B=3A/150\text{ mA}$ )
- Suitable for low voltage large current drivers
- Switching Application

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
STD361	YA YWW	SOT-89

YA: DEVICE CODE, YWW(Y : Year code, WW : Weekly code)

## Absolute maximum ratings

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

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CB0}$	40	V
Collector-Emitter voltage	$V_{CEO}$	15	V
Emitter-Base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	5	A
Collector power dissipation	$P_C$	0.5	W
	$P_C^*$	1	
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

\* : When mounted on ceramic substrate( $250\text{ mm}^2 \times 0.8\text{ t}$ )

## Electrical Characteristics

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

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CB0}$	$I_C=50\ \mu\text{A}$ , $I_E=0$	40	-	-	V
Collector-Emitter breakdown voltage	$BV_{CEO}$	$I_C=1\ \text{mA}$ , $I_B=0$	15	-	-	V
Emitter-Base breakdown voltage	$BV_{EBO}$	$I_E=50\ \mu\text{A}$ , $I_C=0$	7	-	-	V
Collector cut-off current	$I_{CB0}$	$V_{CB}=30\text{V}$ , $I_E=0$	-	-	0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}$ , $I_C=0$	-	-	0.1	$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE}=2\text{V}$ , $I_C=500\ \text{mA}$	160	-	320	-
	$h_{FE2}$	$V_{CE}=2\text{V}$ , $I_C=3\text{A}$	40	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}$ , $I_B=150\ \text{mA}$	-	-	0.3	V
Transition frequency	$f_T$	$V_{CE}=6\text{V}$ , $I_E=-50\ \text{mA}$	-	150	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=20\text{V}$ , $I_E=0$ , $f=1\ \text{MHz}$	-	-	50	pF

Electrical Characteristic Curves

Fig. 1  $P_c - T_a$

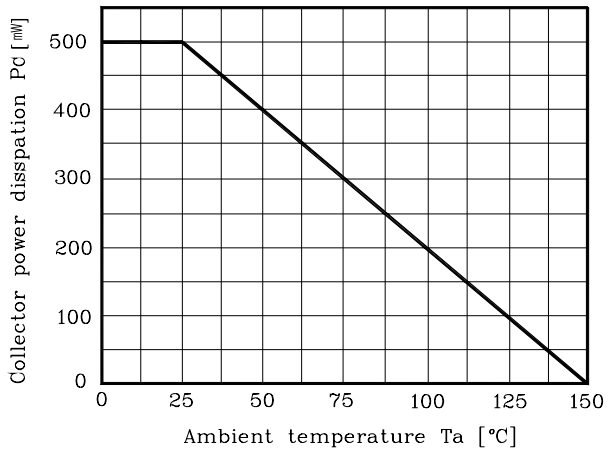


Fig. 2  $h_{FE} - I_c$

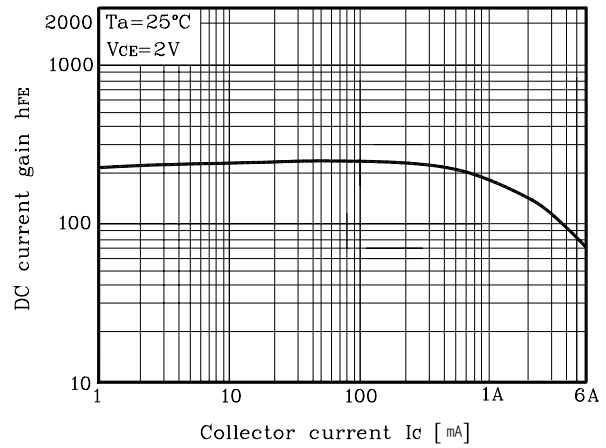


Fig. 3  $V_{CE(sat)} - I_c$

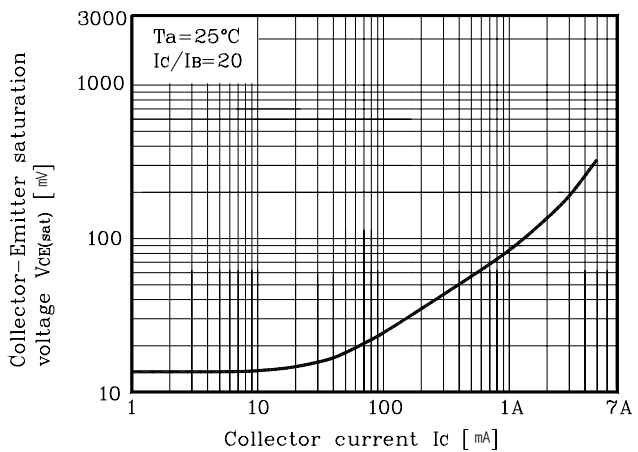


Fig. 4  $f_T - I_c$

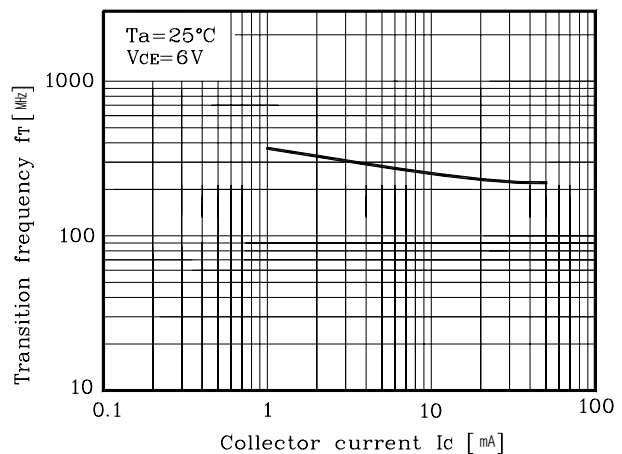
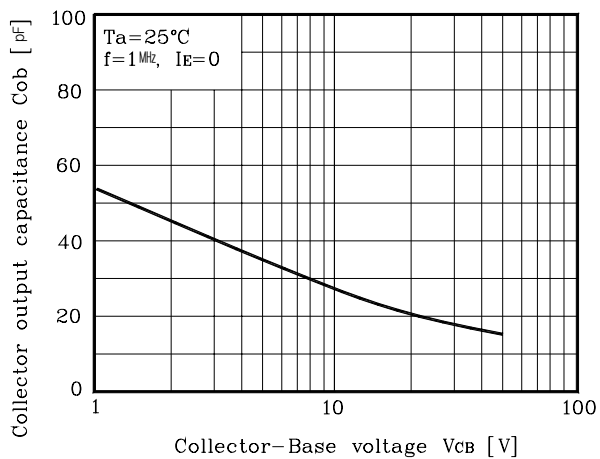
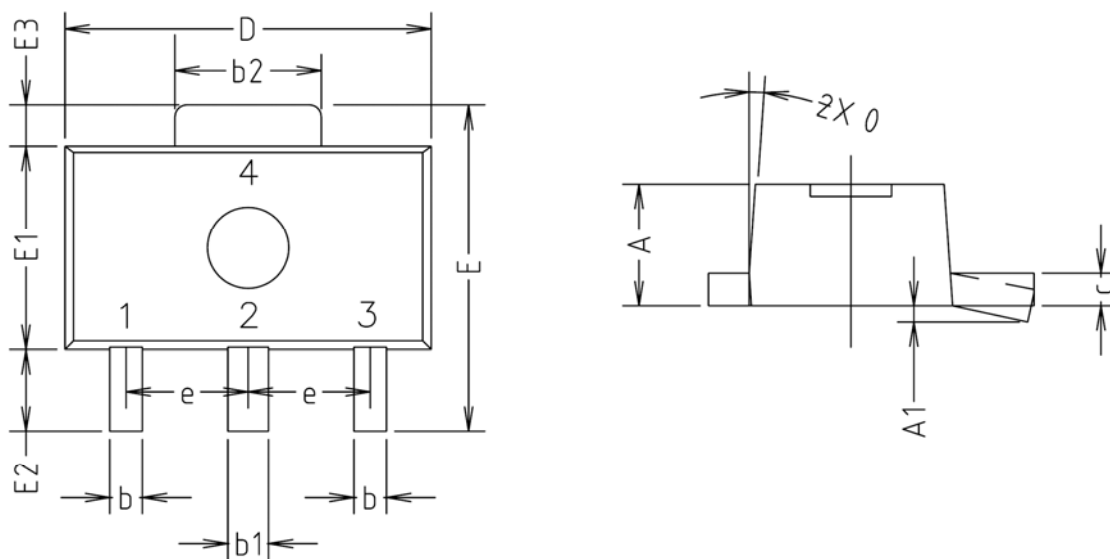


Fig. 5  $C_{ob} - V_{CB}$

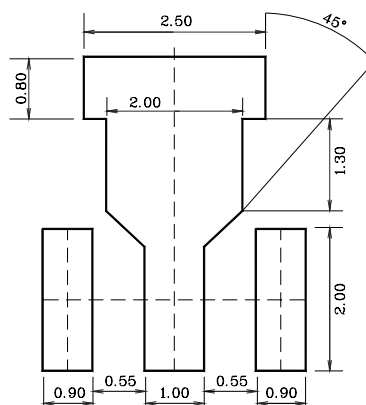


Outline Dimension(mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	1.40	1.50	1.60	
A1	0.00	-	0.10	
b	0.38	0.42	0.48	
b1	0.48	0.52	0.58	
b2	1.79	1.82	1.87	
c	0.40	0.42	0.46	
D	4.40	4.50	4.70	
E	3.70	4.00	4.30	
E1	2.40	2.50	2.70	
E2	0.80	1.00	1.20	
E3	0.40	0.50	0.60	
e	1.50 TYP.			
θ	4° TYP.			

※Recommend PCB solder land [Unit: mm]



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