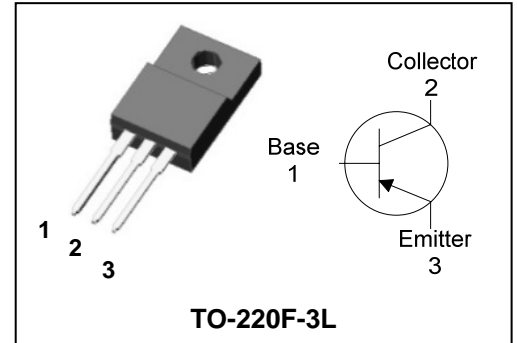


## Features

- Low saturation switching application
- Power amplifier
- High Voltage :  $V_{CEO} = -80V$  Min.
- Complement to STD1408PI

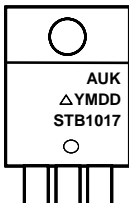
## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
STB1017PI	STB1017	TO-220F-3L

## Marking Diagram

	<p>Column 1 : Manufacturer</p> <p>Column 2 : Production Information            - Δ : Factory Management Code            - YMDD : Date Code (Year, Month, Date)</p> <p>Column 3 : Device Code</p>
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## Absolute maximum ratings

Characteristic	Symbol	Rating	Unit
Collector-Base voltage	$V_{CBO}$	-80	V
Collector-Emitter voltage	$V_{CEO}$	-80	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-4	A
	$I_{CP}^*$	-8	A(Pulse)
Collector Power dissipation ( $T_c = 25^\circ C$ )	$P_C$	15	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 ~ 150	$^\circ C$

\* : Single pulse,  $tp = 300 \mu s$

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	8.33	$^\circ C/W$
	Junction-ambient	$R_{th(J-a)}$	-	62.5	

## Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -80V, I_E = 0$	-	-	-10	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	-	-	-10	$\mu A$
Collector-Emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -50mA, I_B = 0$	-80	-	-	V
DC current gain	$h_{FE}$	$V_{CE} = -5V, I_C = -0.5A$	120	-	240	-
		$V_{CE} = -5V, I_C = -3A$	40	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -0.3A$	-	-1.0	-1.7	V
Base-Emitter saturation voltage	$V_{BE(on)}$	$V_{CE} = -5V, I_B = -3A$	-	-1.0	-1.5	V
Transition frequency	$f_T$	$V_{CB} = -5V, I_C = -0.5A$	-	9	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	60	-	pF

\*  $h_{FE}$  rank : 120~240 Only

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

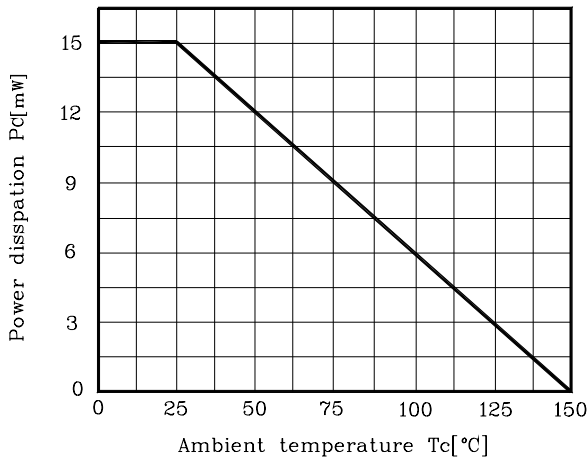


Fig. 2  $I_C - V_{BE}$

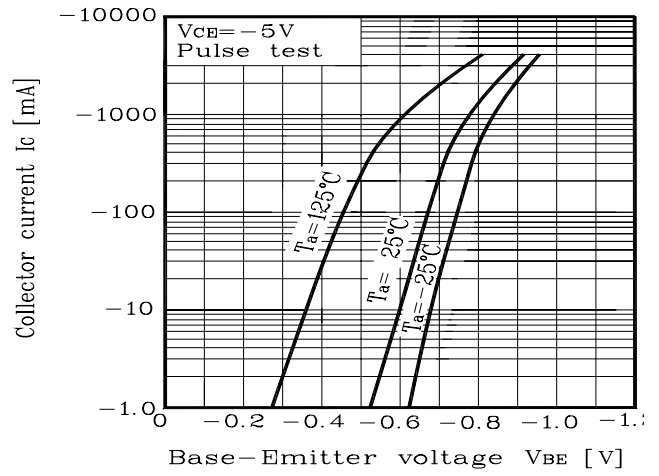


Fig. 3  $I_C - V_{CE}$

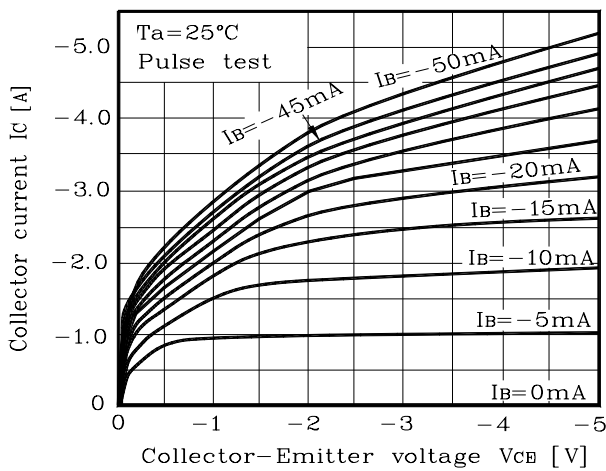


Fig. 4  $h_{FE} - I_C$

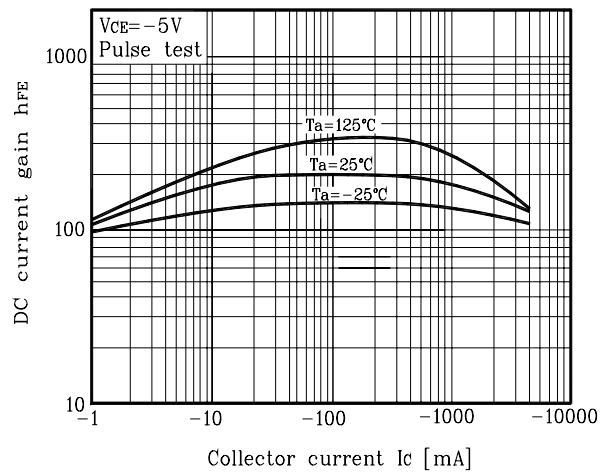


Fig. 5  $V_{CE(sat)} - I_C$

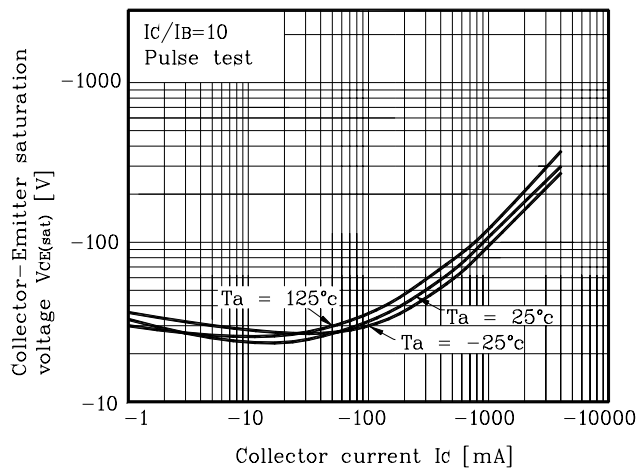
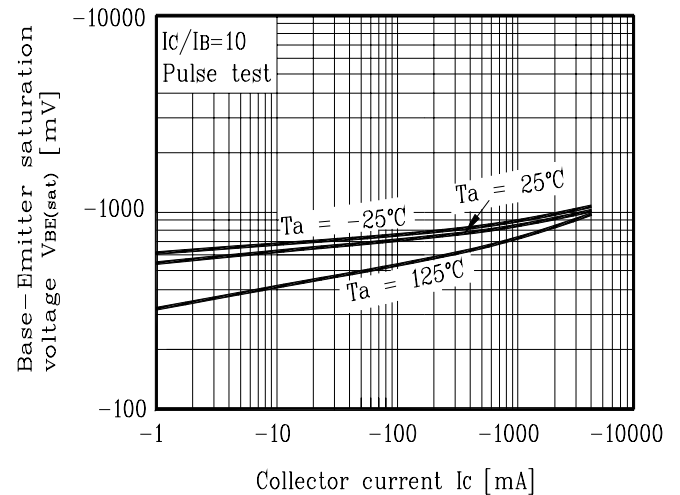


Fig. 6  $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

Fig. 7  $C_{Ob} - V_{CB}$

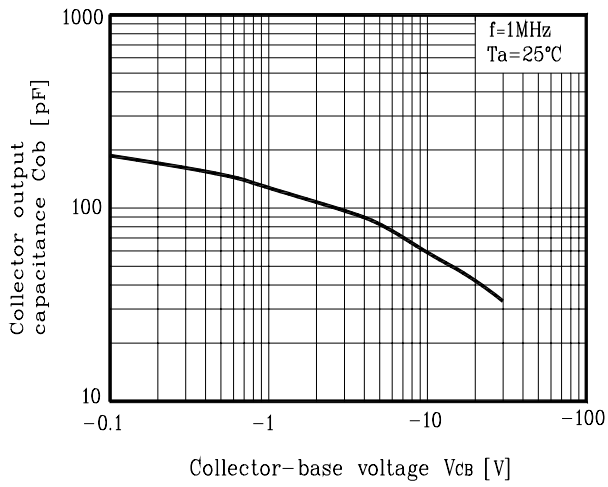
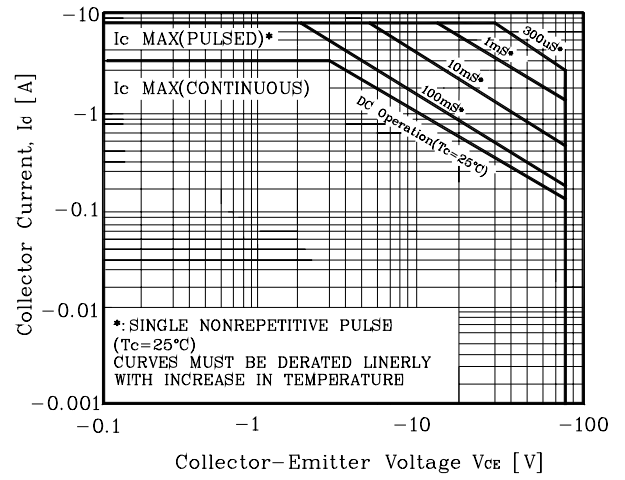
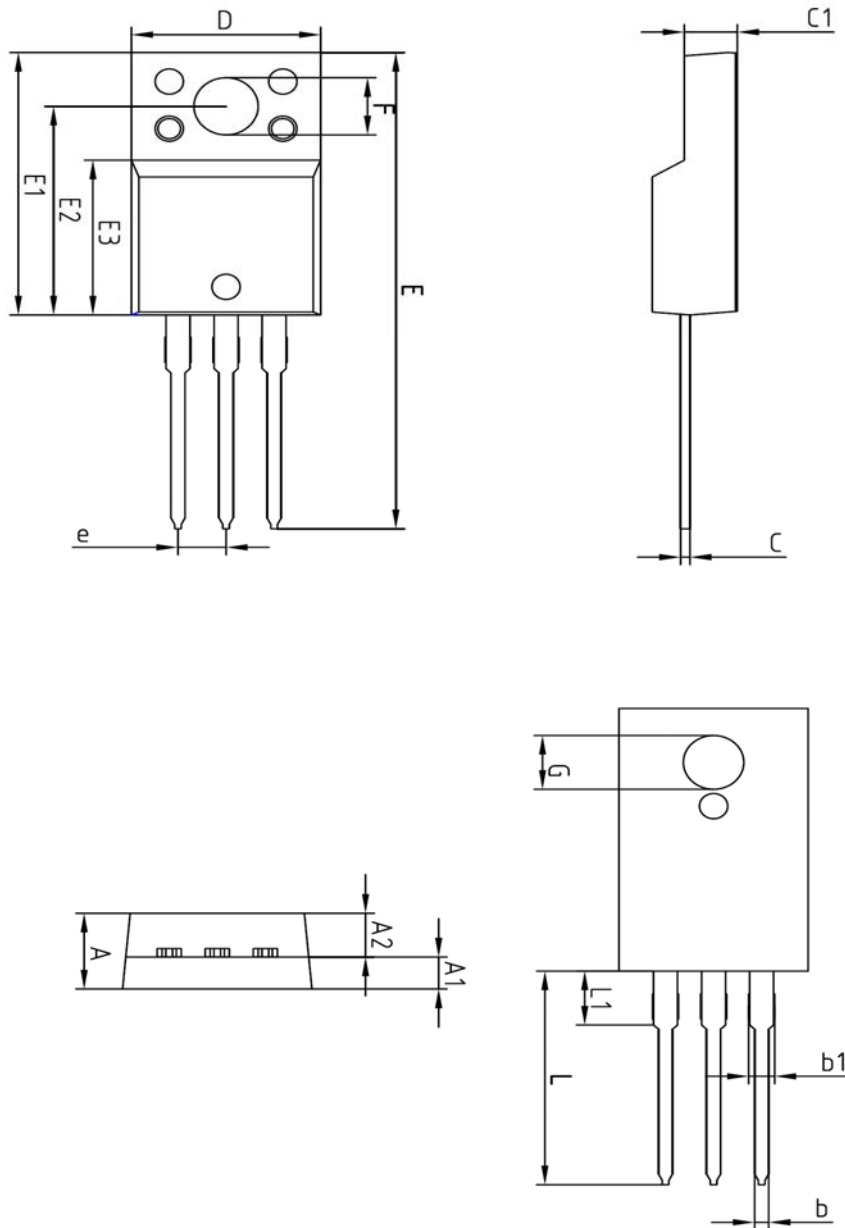


Fig. 8 Safe Operating Area



## Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	-	-	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	-	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	-	13.00	
L1	3.46 BSC			

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