KODENSHI AUK

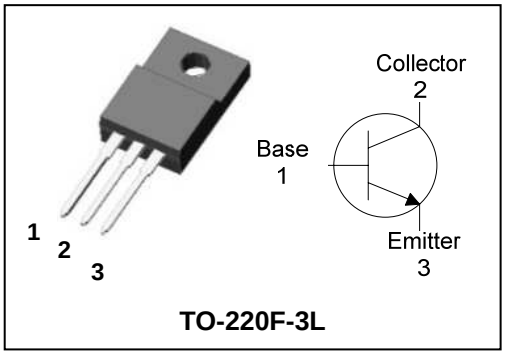
STD1408PI

NPN Silicon Transistor

Features

- Low saturation switching application
- Power amplifier
- High Voltage : V_{CEO}= 80V Min.
- Complement to STB1017PI

PIN Connection

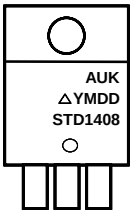


TO-220F-3L

Ordering Information

Type NO.	Marking	Package Code
STD1408PI	STD1408	TO-220F-3L

Marking Diagram



Column 1 : Manufacturer

Column 2 : Production Information

- △ : Factory Management Code
- YMDD : Date Code (Year, Month, Date)

Column 3 : Device Code

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 (Tc= 25℃)	P_C	15	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

* : Single pulse, tp= 300 μs

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	8.33	℃/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	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V, I_C= 0	-	-	10	μA
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	-	0.45	1.5	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	-	8	-	MHz
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0, f= 1MHz	-	40	-	pF

* hFE rank : 120~240 Only

Electrical Characteristic Curves

Fig. 1 P_C - Ta

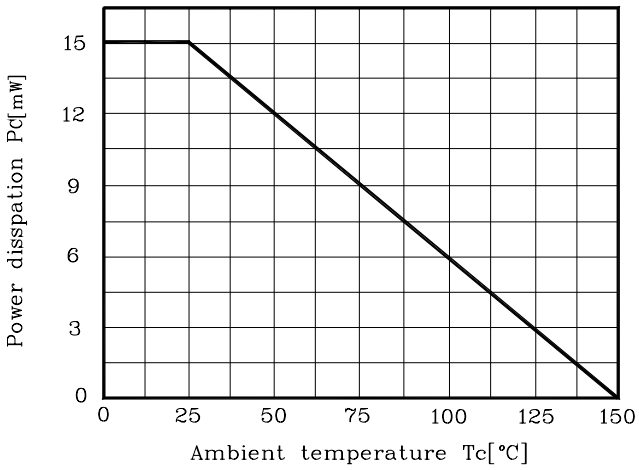


Fig. 2 I_C - V_{BE}

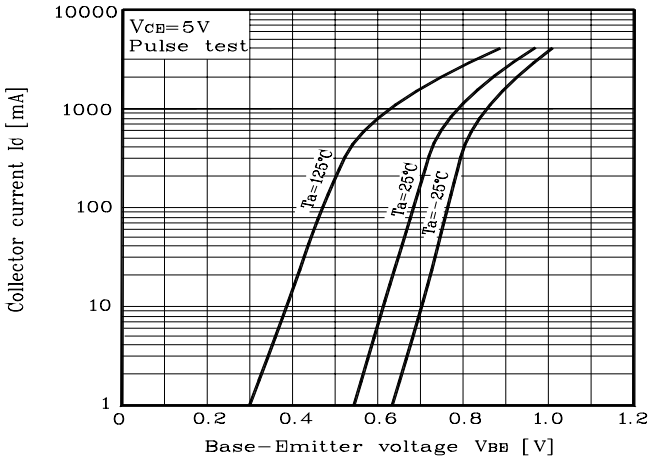


Fig. 3 I_C - V_{CE}

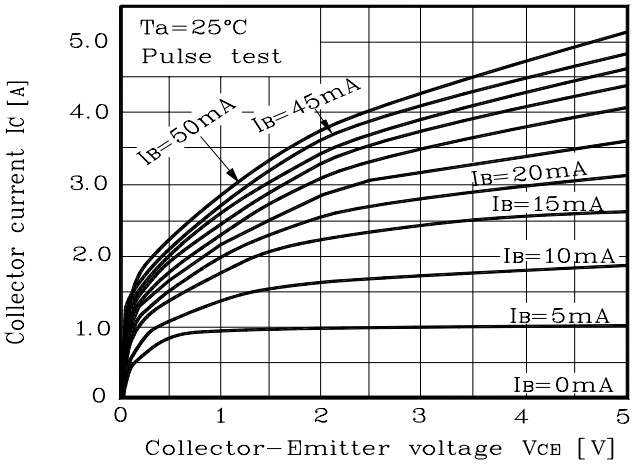


Fig. 4 h_{FE}-I_C

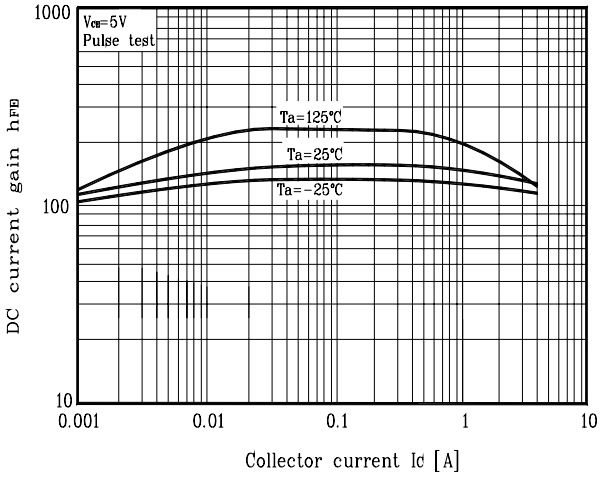


Fig. 5 $V_{CE(sat)}$ - I_C

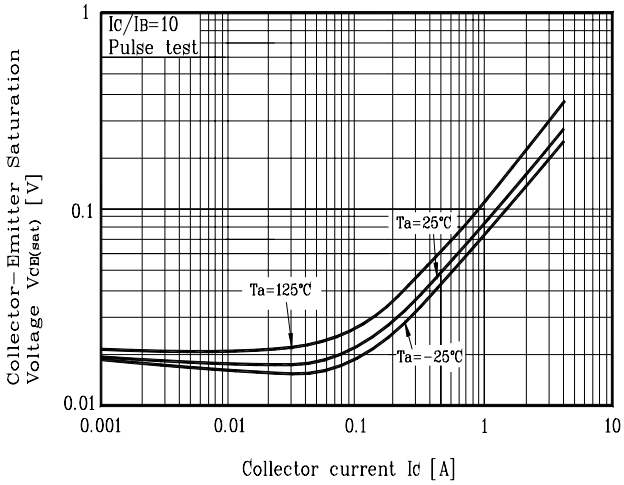
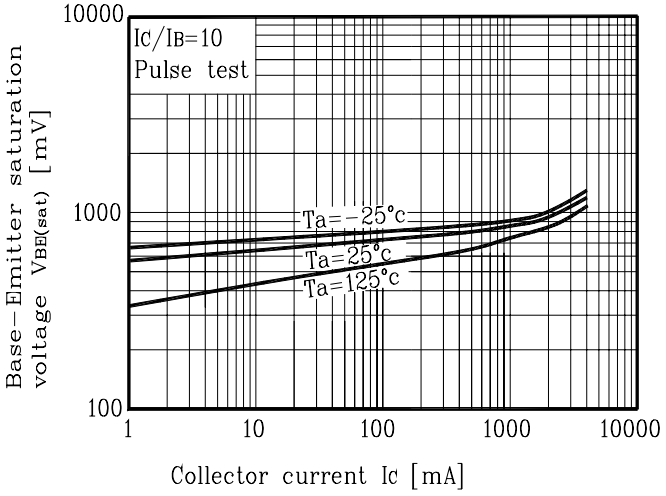


Fig. 6 $V_{BE(SAT)}$ - I_C



Electrical Characteristic Curves

Fig. 7 Cob - V_{CB}

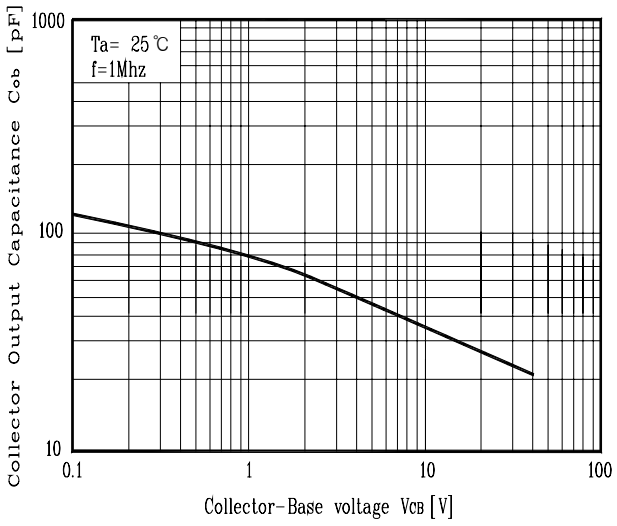
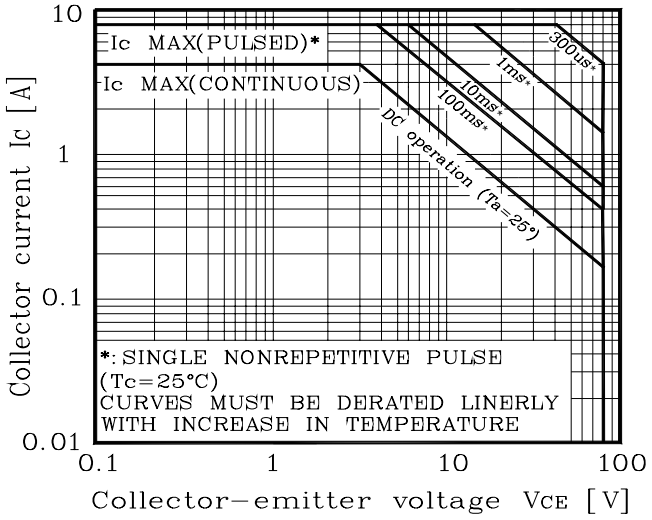
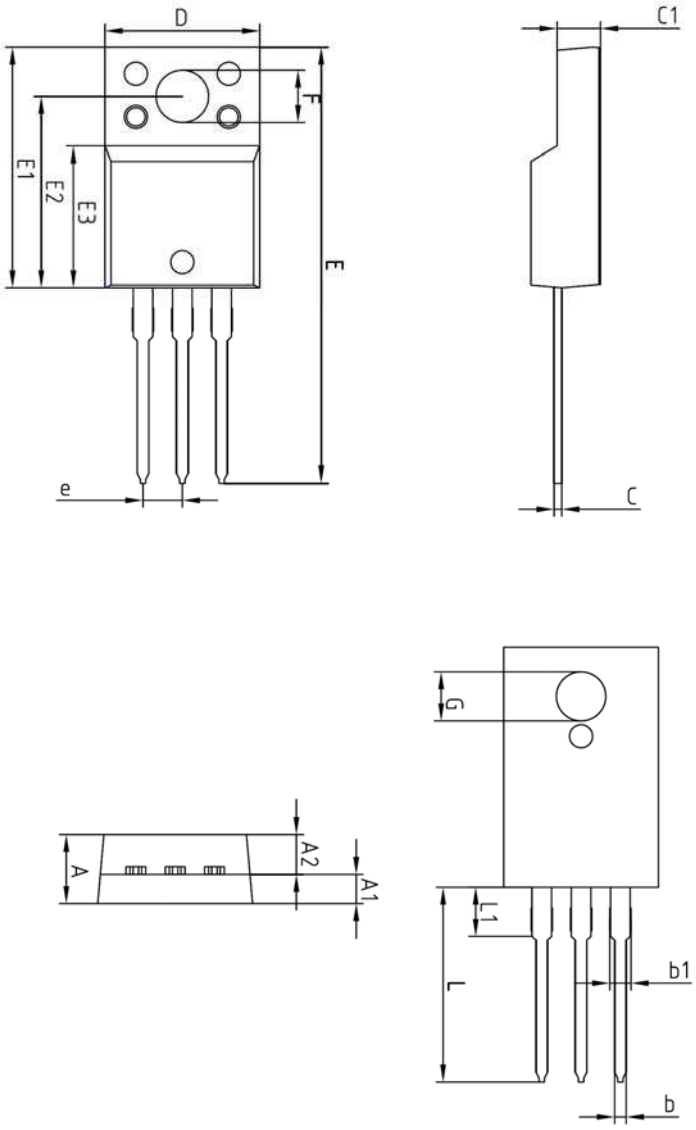


Fig. 8 Safe operating Area



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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