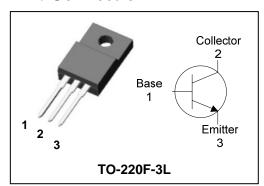


NPN Silicon Transistor

Features

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

PIN Connection



Ordering Information

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

Marking Diagram

AUK

AYMDD

STD1408

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	А
Collector current	I _{CP} *	8	A(Pulse)
Collector Power dissipation (Tc=25°C)	P _C	15	W
Junction temperature	T _j	150	°C
Storage temperature	T_{stg}	-55~150	°C

^{*:} Single pulse, tp= 300 μ s

Characteristic		Symbol	Тур.	Max	Unit
Thermal	Junction-case	$R_{th(J-C)}$	-	8.33	°C/W
resistance	Junction-ambient	R _{th(J-a)}	-	62.5	C/VV

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Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = 80V, I_{E} = 0$	-	-	10	μА
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0	-	-	10	μА
Collector-Emitter breakdown voltage	V _{(BR)CEO}	I _C =50mA, I _B =0	80	-	-	٧
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

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Electrical Characteristic Curves

Fig. 1 P_C - Ta

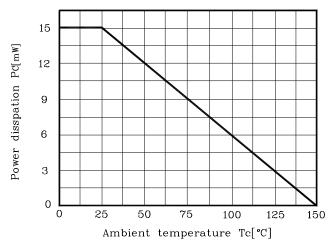


Fig. 2 I_{C} - V_{BE}

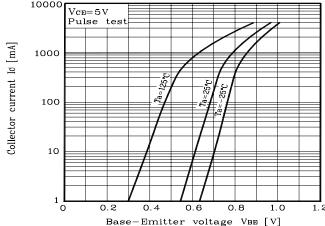


Fig. 3 $I_{\text{C}}\,$ - V_{CE}

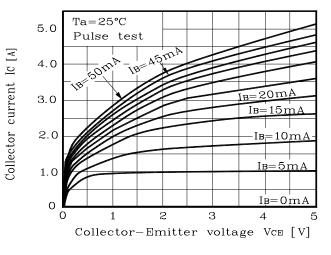


Fig. 4 h_{FE}-I_C

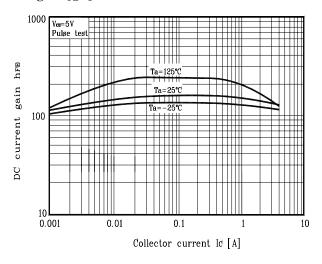


Fig. 5 $V_{CE(sat)}$. I_{C}

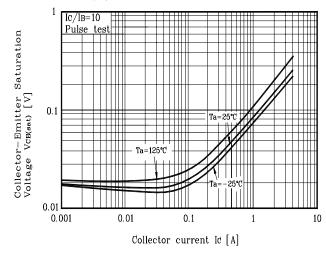
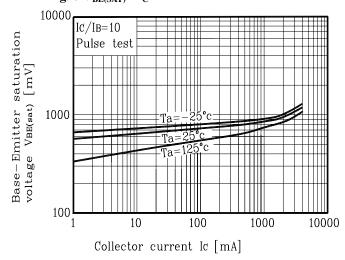


Fig. 6 $V_{BE(SAT)}$ - I_C



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Electrical Characteristic Curves

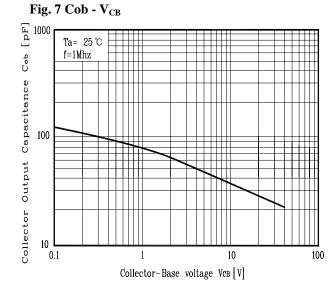
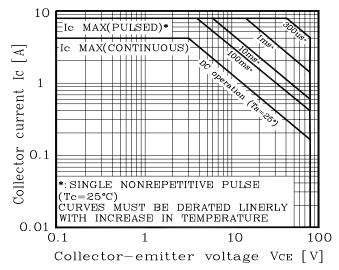
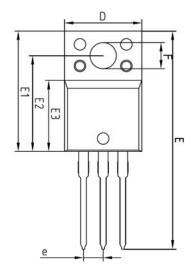


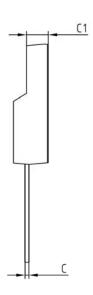
Fig. 8 Safe operating Area

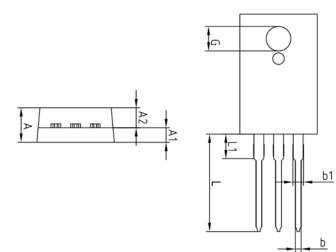


4

Outline Dimension







		NOTE		
SYMBOL	MINIMUM	NOMINAL	MAXIMUM	NOIE
Α	_	_	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
Ь	0.65	0.75	0.85	
ь1	1.07	1.27	1.47	
С	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
Ε	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	
е	2.54 BSC			
L	12.40	_	13.00	
L1	3.46 BSC			

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