KODENSHI AUK

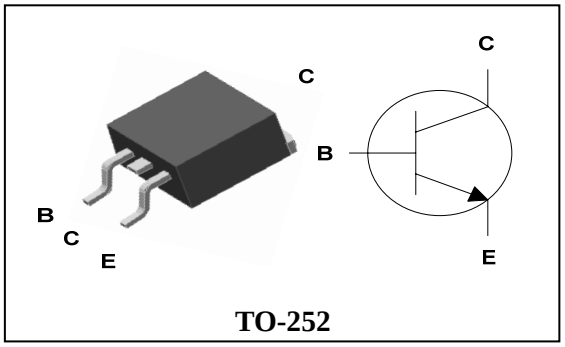
STC403D

NPN Silicon Transistor

Applications

- Power amplifier application
- High current switching application

PIN Connection



TO-252

Features

- Power Transistor General Purpose application
- Low saturation voltage
  : $V_{CE(sat)}$= 0.4V Typ.
- High Voltage : V_{CEO}= 60V Min.

Ordering Information

Type NO.	Marking	Package Code
STC403D	STC403	TO-252

Absolute Maximum Ratings

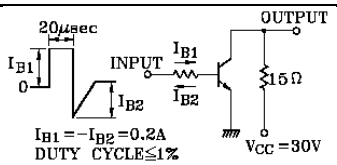
[Ta=25℃]

Characteristic	Symbol	Rating	Unit
Collector-Base voltage	V_{CBO}	80	V
Collector-Emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	3	A(DC)
	I_{CP}*	6	A(Pulse)
Collector Power dissipation	P_C(Ta= 25°C)	1.2	W
	P_C(T_C= 25°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-ambient	$R_{th(J-a)}$	-	104.1	℃/W
Thermal resistance	Junction-case	$R_{th(J-c)}$	-	8.3	℃/W

Electrical Characteristics (Ta=25°C)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage		BV_{CEO}	I_C= 50mA, I_B= 0	60	-	-	V
Collector cut-off current		I_{CBO}	V_{CB}= 60V, I_E= 0	-	-	50	μA
Emitter cut-off current		I_{EBO}	V_{EB}= 5V, I_C= 0	-	-	50	μA
DC current gain		h_{FE}*	V_{CE}= 5V, I_C= 0.5A	200	-	400	-
Base-Emitter on voltage		$V_{BE(ON)}$	V_{CE}= 5V, I_C= 0.5A	-	0.7	1	V
Collector-Emitter saturation voltage		$V_{CE(sat)}$	I_C= 2A, I_B= 0.2A	-	0.4	1	V
Transition frequency		f_T	V_{CB}= 5V, I_C= 0.5A	-	30	-	MHz
Collector output capacitance		C_{ob}	V_{CB}= 10V, I_E= 0, f= 1MHz	-	35	-	pF
Switching Time	Turn-on Time	t_{on}		-	0.65	-	μS
	Storage Time	t_{stg}		-	1.3	-	
	Fall Time	t_f		-	0.65	-	

* hFE rank : 200~400 Only

Electrical Characteristic Curves

Fig. 1 P_C - Ta

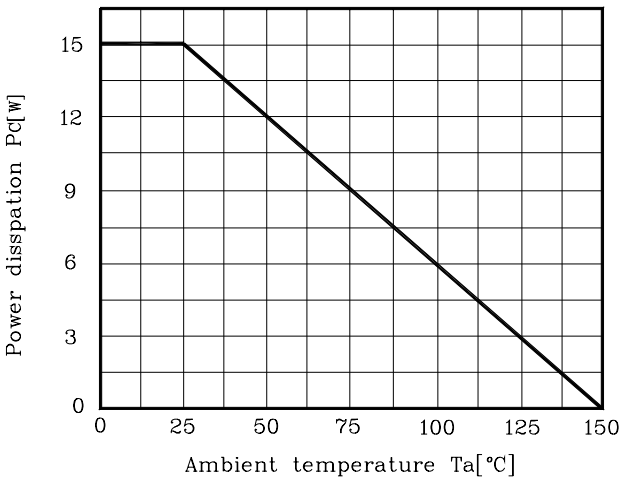


Fig. 2 V_{CE} - I_C

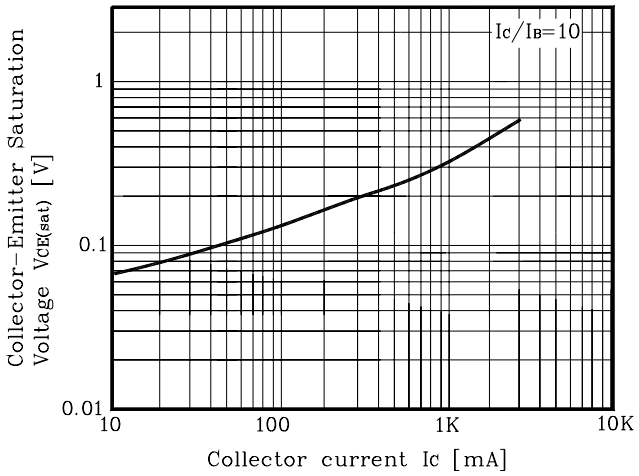


Fig. 3 h_{FE}-I_C

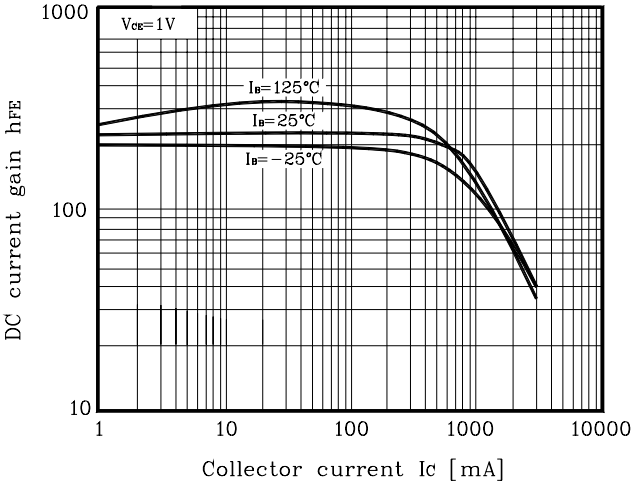


Fig. 4 h_{FE}-I_C

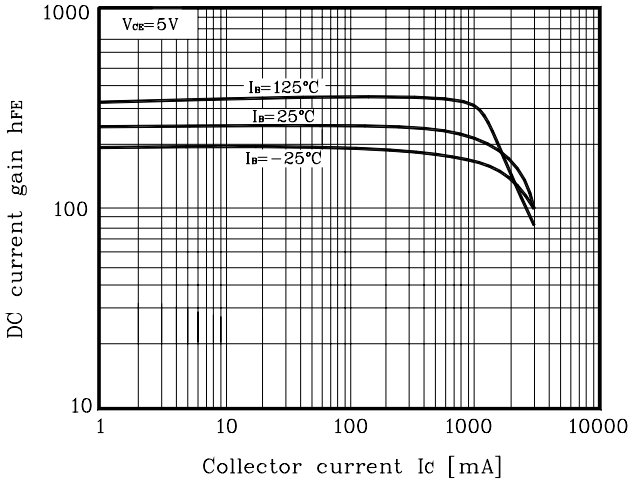


Fig. 5 I_C - V_{CE}

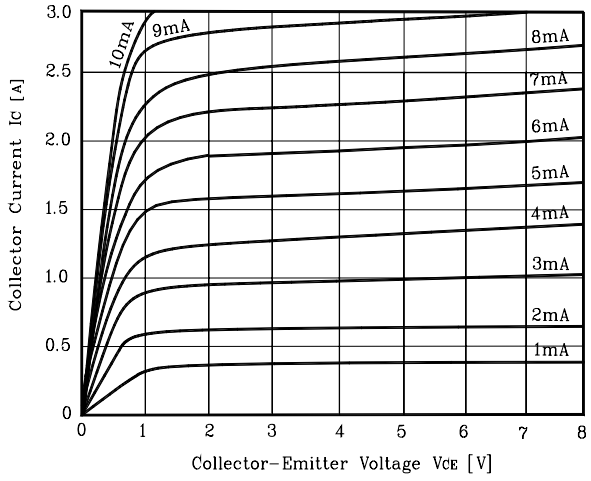
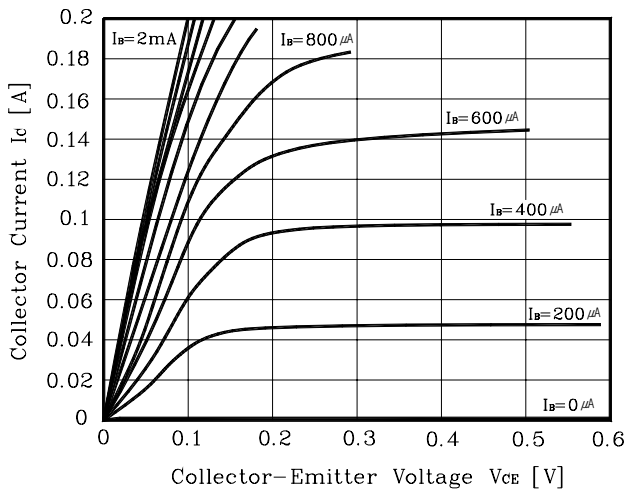
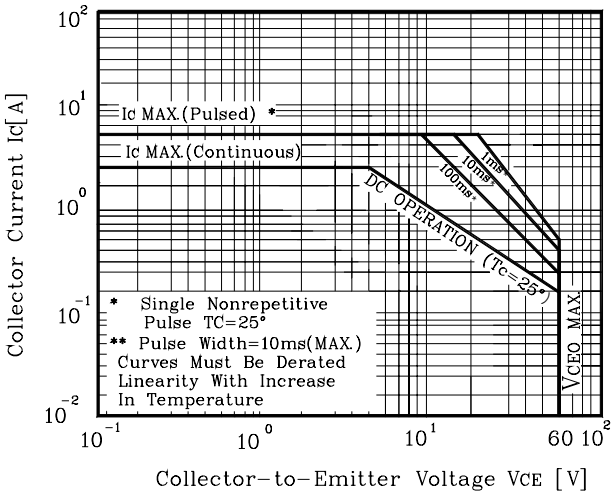


Fig. 6 I_C - V_{CE}

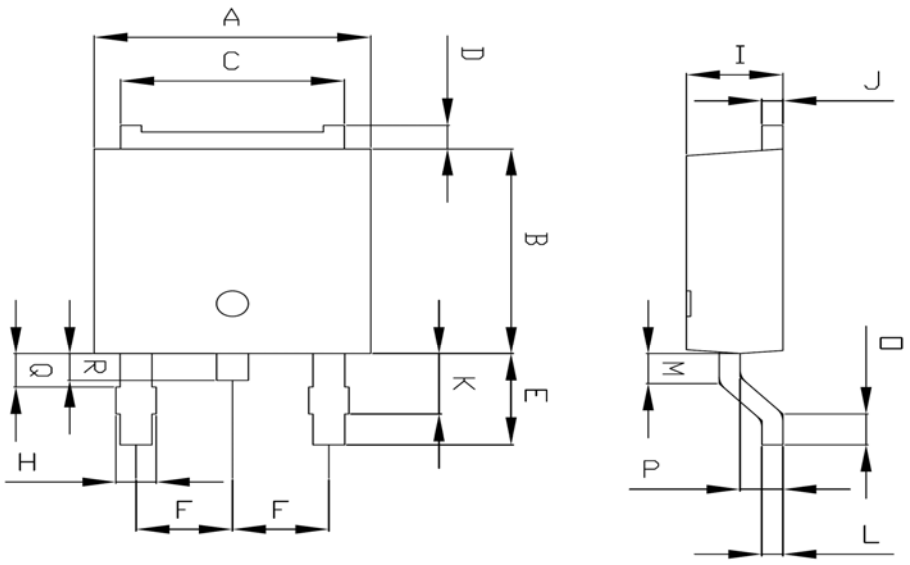


Electrical Characteristic Curves

Fig. 7 Safe operating Area

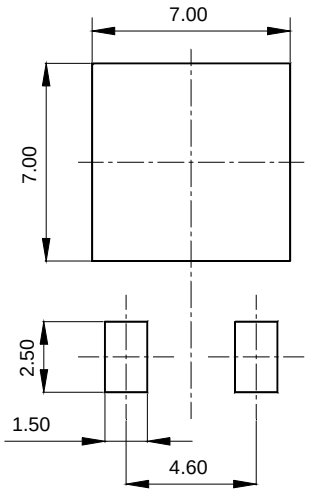


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	6.40	6.60	6.80	
B	5.90	6.10	6.30	
C	5.04	5.34	5.64	
D	0.50	0.70	0.90	
E	2.50	2.70	2.90	
F	2.10	2.30	2.50	
H	0.96 MAX			
I	2.20	2.30	2.40	
J	0.40	0.50	0.60	
K	1.60	1.80	2.00	
L	0.40	0.50	0.60	
M	0.81	0.91	1.01	
O	0.80	0.90	1.00	
P	0.90	1.00	1.10	
Q	0.95 MAX			
R	0.60	0.80	1.00	

※Recommend PCB solder land [Unit: mm]



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