



FX401

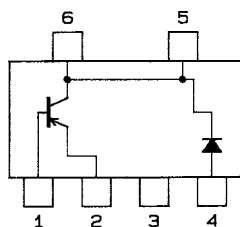
TR:PNP Epitaxial Planar Silicon Transistor
SBD:Schottky Barrier Diode

DC-DC Converter

Features

- Complex type of a low saturation voltage, high speed switching and large current PNP transistor and a fast recovery and low forward voltage Schottky barrier diode facilitating high-density mounting,
- The FX401 is composed on 2chips, one being equivalent to the 2SB1121 and the other the SB30-03P, placed in one package.

Electrical Connection



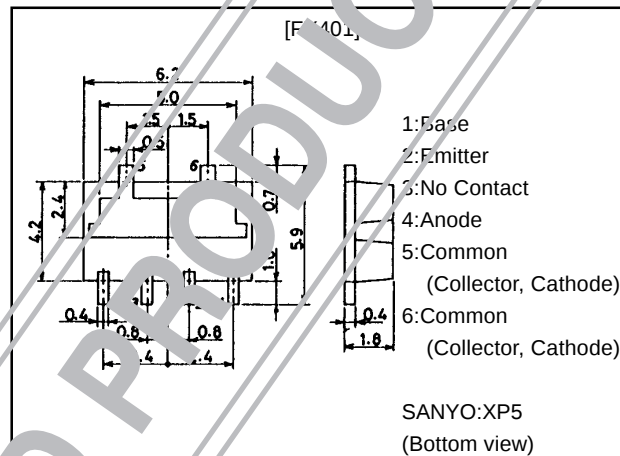
- 1:Base
2:Emitter
3:No Contact
4:Anode
5, 6:Common
(Collector, Cathode)

(Top view)

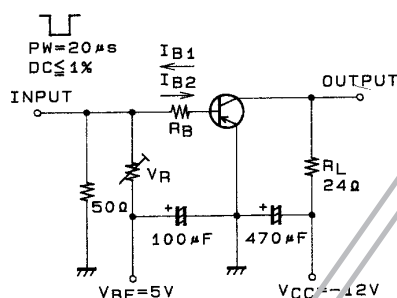
Package Dimensions

unit:mm

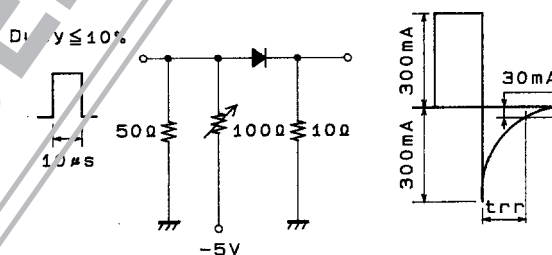
2123



Switching Time Test Clrcuit



Test Circuit



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V_{CBO}		-30	V
Collector-to-Emitter Voltage	V_{CEO}		-25	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-2	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-400	mA
Collector Dissipation	P_C	Mounted on ceramic board (750mm ² ×0.8mm)	1.5	W
Junction Temperature	T_J		150	°C
[SBD]				
Repetitive Peak Reverse Voltage	V_{RRM}		30	V
Non-repetitive Peak Reverse Surge Voltage	V_{RSM}		35	V
Average Rectified Current	I_O		3	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1cycle	10	A
Junction Temperature	T_J		-55 to +125	°C
Storage Temperature	T_{stg}		-55 to +125	°C

- Marking:401

Continued on next page.

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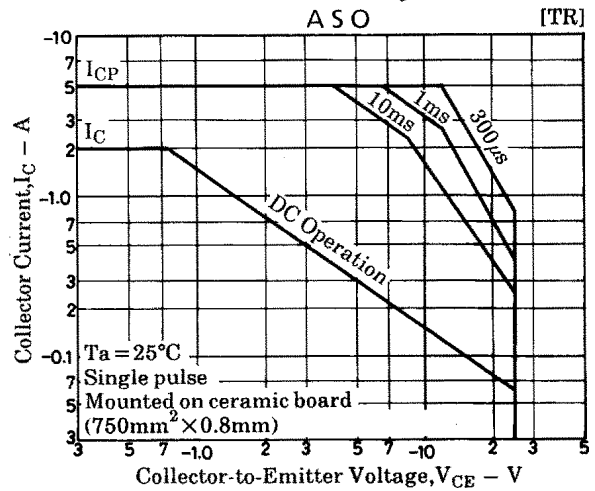
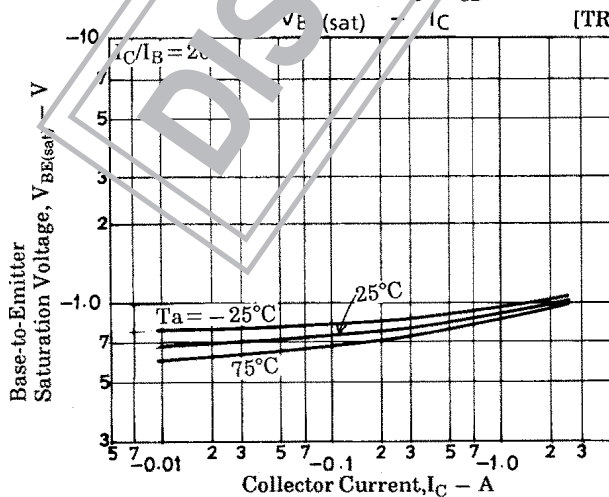
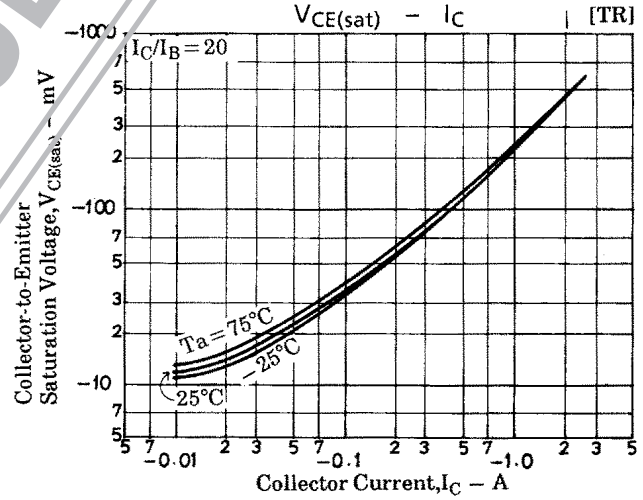
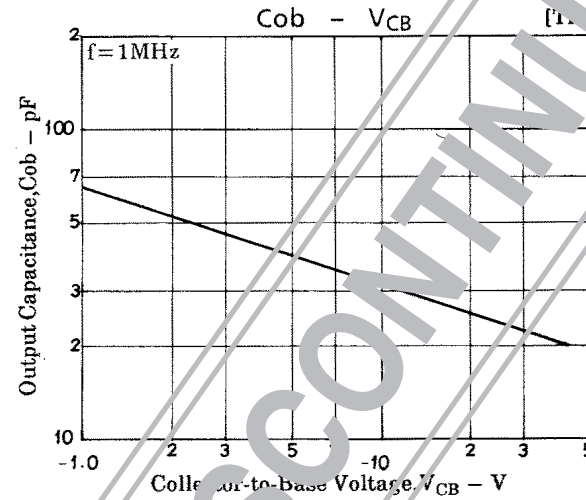
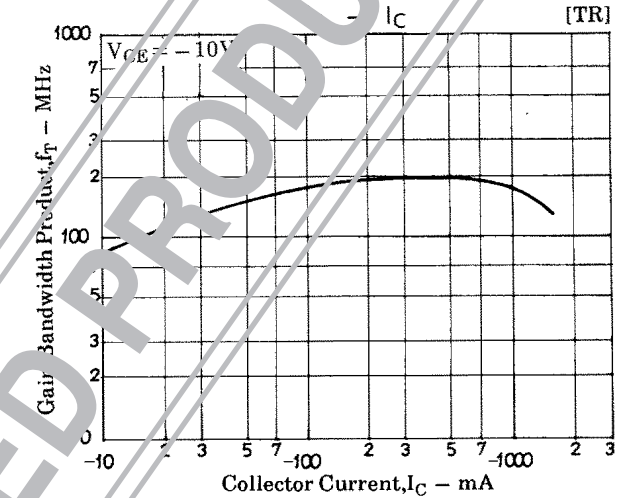
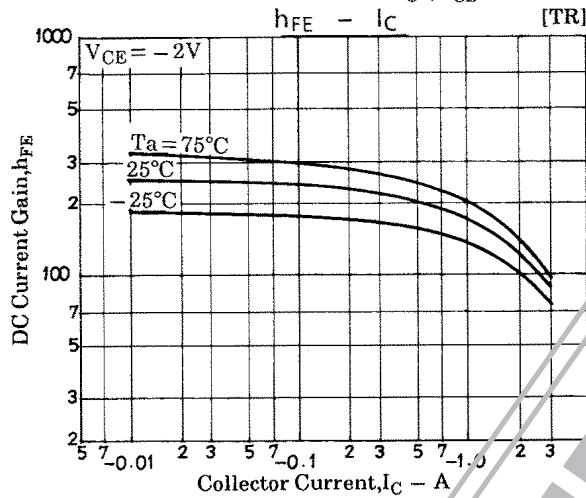
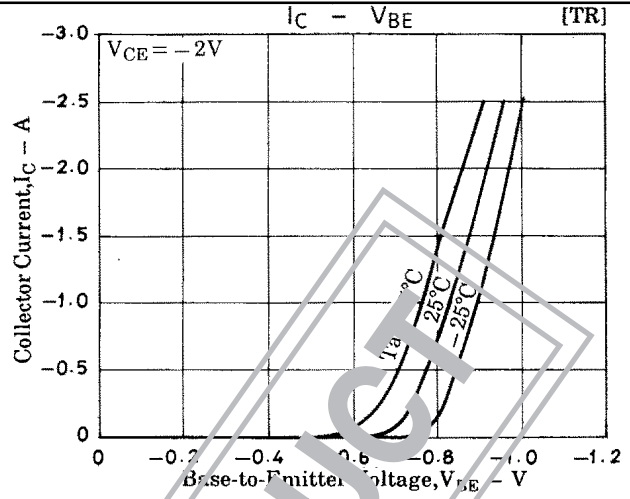
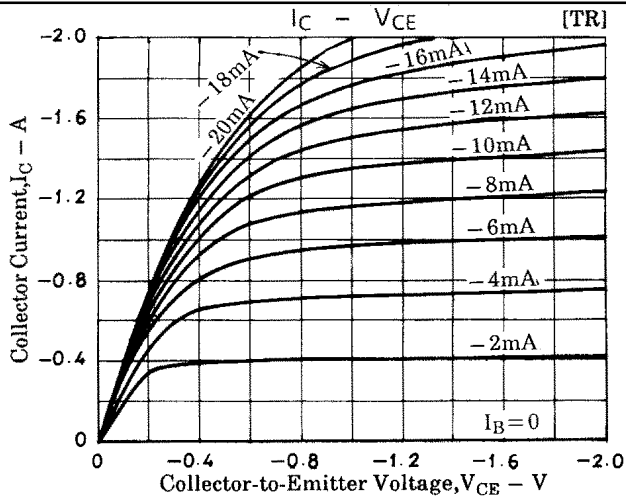
52098HA (KT)/41095TS (KOTO) TA-0087 No.5028-1/4

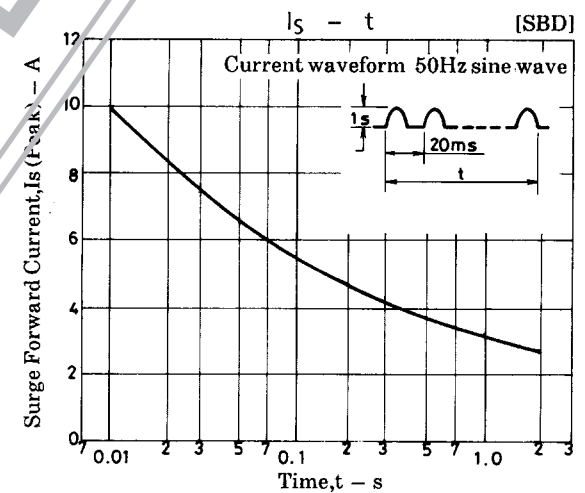
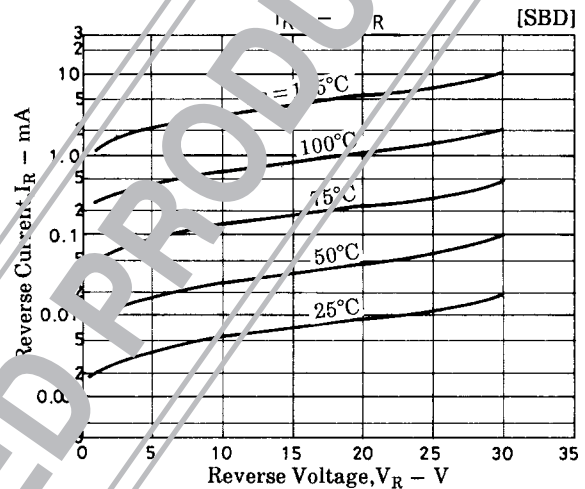
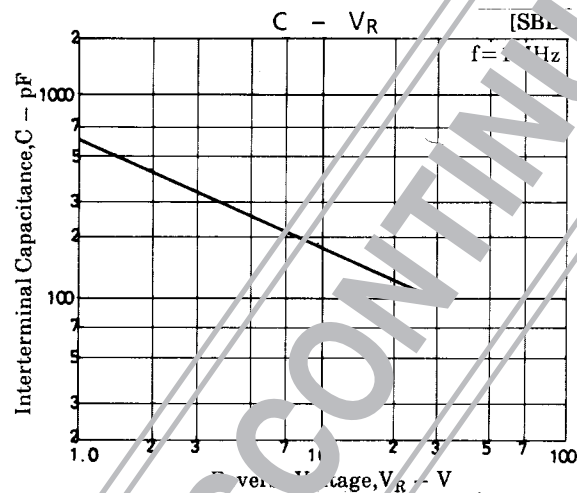
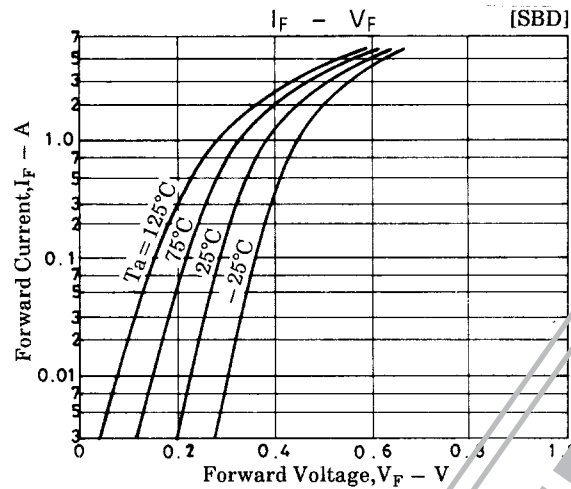
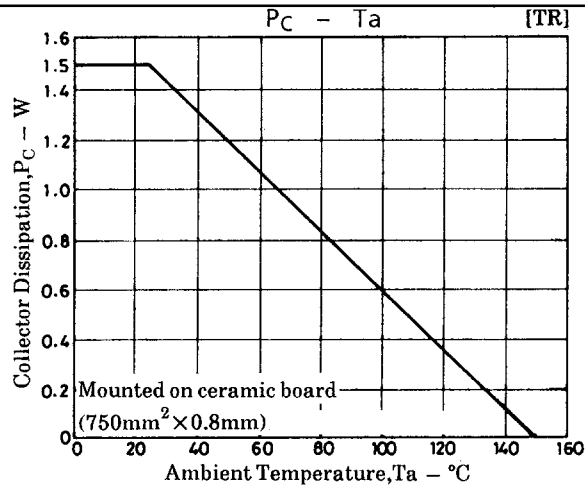
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Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I _{CBO}	V _{CB} =-20V, I _E =0			-0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	μA
DC Current Gain	h _{FE1}	V _{CE} =-2V, I _C =-100mA	140		400	
	h _{FE2}	V _{CE} =-2V, I _C =-1.5A	65			
Gain-Bandwidth Product	f _T	V _{CE} =-10V, I _C =-200mA		320		MHz
Output Capacitance	C _{ob}	V _{CE} =-10V, f=1MHz		2		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C =-1.5A, I _B =-75mA		-350	-600	V
B-E Saturation Voltage	V _{BE(sat)}	I _C =-1.5A, I _B =-75mA		-1.0	-1.3	V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0				V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C =-10μA, R _{BE} =∞	25			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-6			V
Turn-ON Time	t _{on}	See sepcified Test Circuit		60		ns
Storage Time	t _{stg}	See sepcified Test Circuit		350		ns
Fall Time	t _f	See sepcified Test Circuit		25		ns
[SBD] (Value per element)						
Reverse Voltage	V _R	I _R =1mA	30			V
Forward Voltage	V _F	I _F =3A			0.55	V
Reverse Current	I _R	V _R =15V			200	μA
Interterminal Capacitance	C	V _R =10V, f=1MHz		160		pF
Reverse Recovery Time	t _{rr}	I _F =I _R =300mA, See sepcified Test Circuit			30	ns
Thermal Resistance	R _{thj-a}	Mounted on ceramic board (50mm ² ×0.8mm)		85		°C/W

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