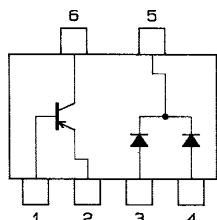


**FX802**

TR:PNP Epitaxial Planar Silicon Transistor
SBD:Schottky Barrier Diode (Twin type · Cathode Common)

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 FX802 is composed of 2 chips, one being equivalent to the 2SB1302 and the other the SB20W03P, placed in one package.

Electrical Connection

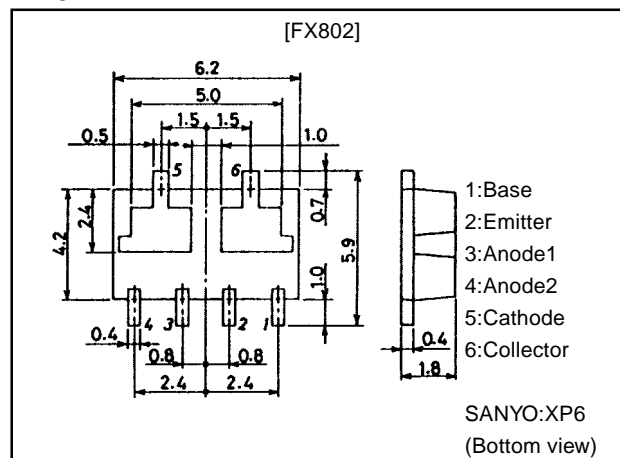
- 1:Base
2:Emitter
3:Anode1
4:Anode2
5:Cathode
6:Collector

(Top view)

Package Dimensions

unit:mm

2126

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V_{CB0}		-25	V
Collector-to-Emitter Voltage	V_{CE0}		-20	V
Emitter-to-Base Voltage	V_{EB0}		-5	V
Collector Current	I_C		-5	A
Collector Current (Pulse)	I_{CP}		-8	A
Base Current	I_B		-1	A
Collector Dissipation	P_C	Mounted on ceramic board (750mm ² ×0.8mm) 1 unit	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		2	A
	I_O	(Total)	4	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	10	A
Junction Temperature	T_J		-55 to +125	°C
Storage Temperature	T_{stg}		-55 to +125	°C

· Marking:802

Continued on next page.

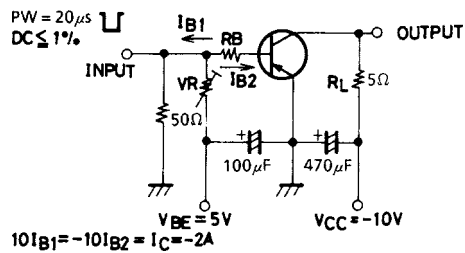
FX802

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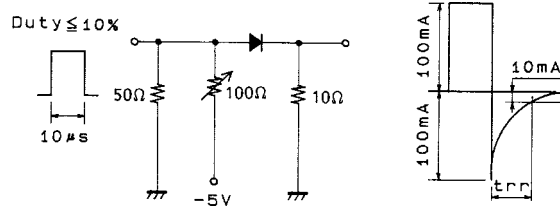
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I_{CBO}	$V_{CB}=-20V, I_E=0$			-500	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0$			-500	nA
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=-500mA$	140		400	
	h_{FE2}	$V_{CE}=-2V, I_C=-4A$	60			
Gain-Bandwidth Product	f_T	$V_{CE}=-5V, I_C=-200mA$		320		MHz
Output Capacitance	C_{ob}	$V_{CE}=-10V, f=1MHz$		60		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-3A, I_B=-60mA$		-250	-500	mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=-3A, I_B=-60mA$		-1.0	-1.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_E=-1mA, R_{BE}=\infty$	-20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5			V
Turn-ON Time	t_{on}	See sepcified Test Circuit		40		ns
Storage Time	t_{stg}	See sepcified Test Circuit		200		ns
Fall Time	t_f	See sepcified Test Circuit		10		ns
[SBD] (Value per element)						
Reverse Voltage	V_R	$I_R=500\mu A$	30			V
Forward Voltage	V_F	$I_F=2A$			0.55	V
Reverse Current	I_R	$V_R=15V$			100	μA
Interterminal Capacitance	C	$V_R=10V, f=1MHz$		70		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100mA$, See specified Test Circuit			20	ns
Thermal Resistance	R_{thj-a}	Mounted on ceramic board (750mm ² ×0.8mm)		85		°C/W

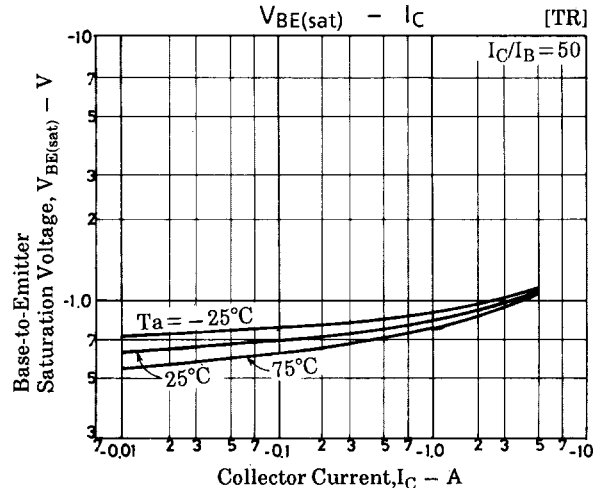
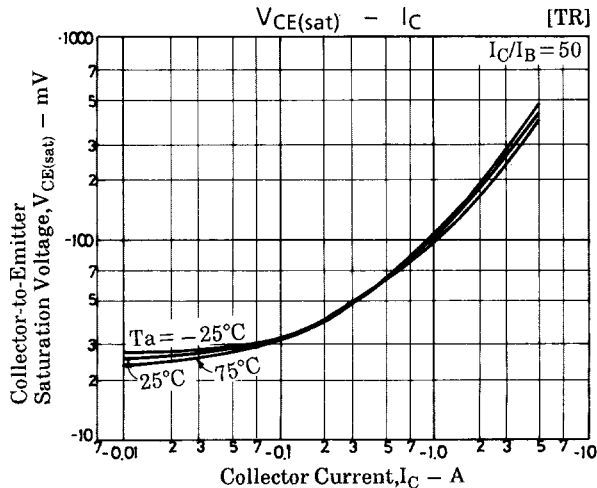
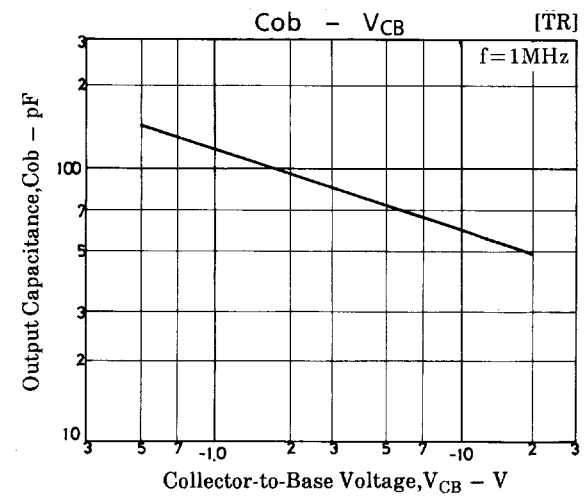
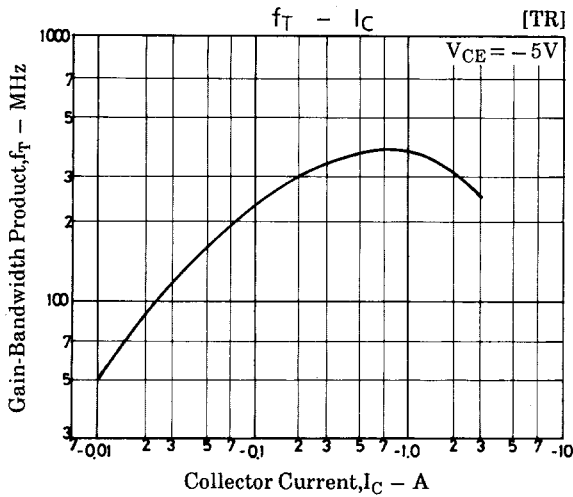
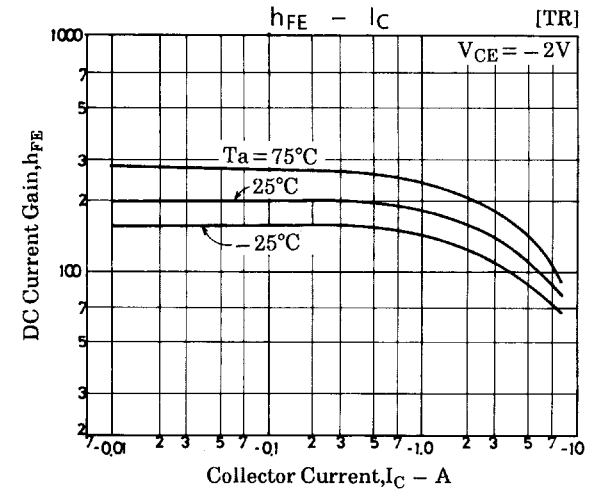
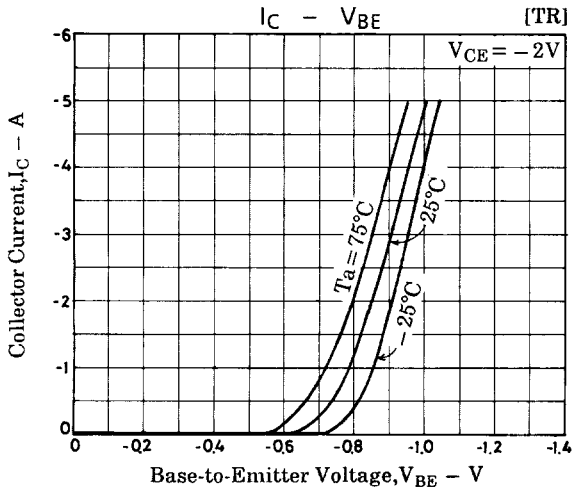
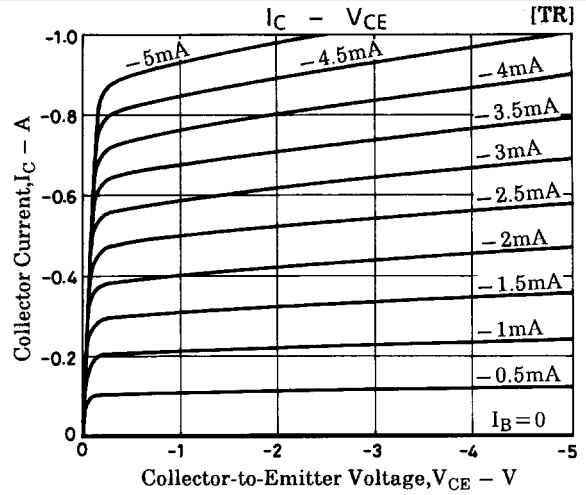
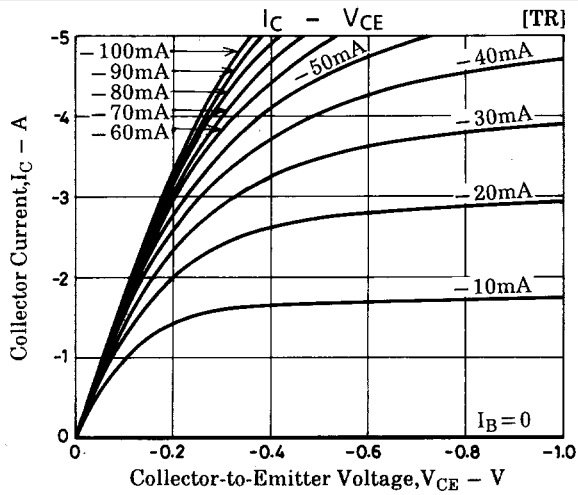
Switching Time Test Circuit



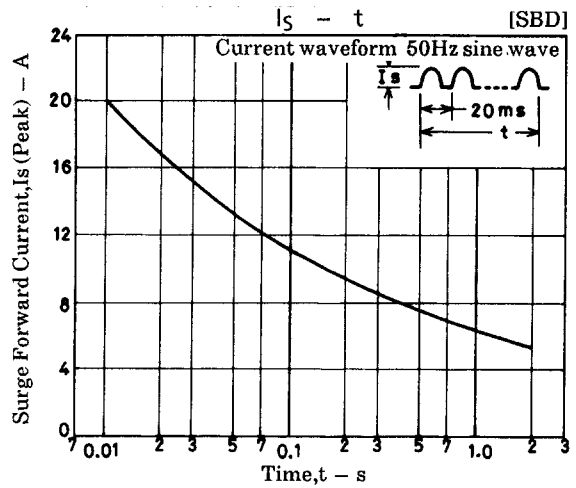
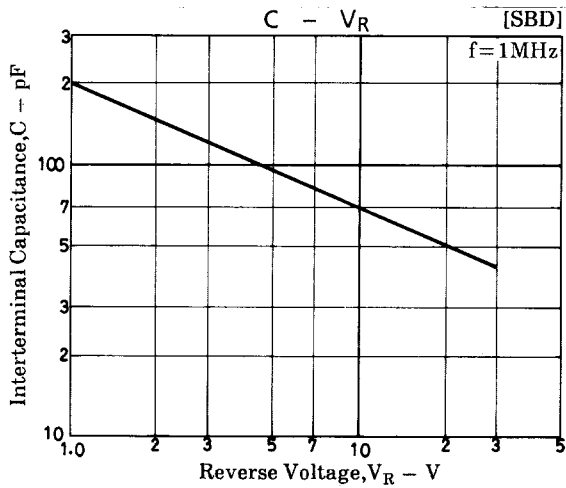
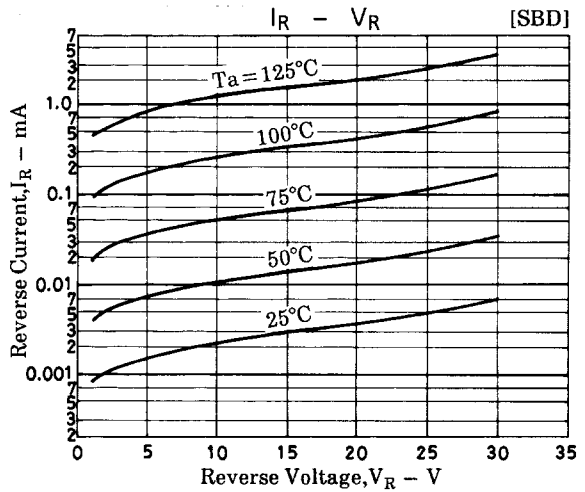
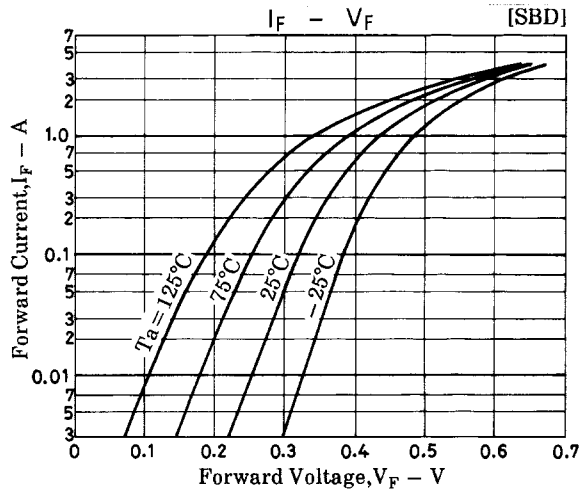
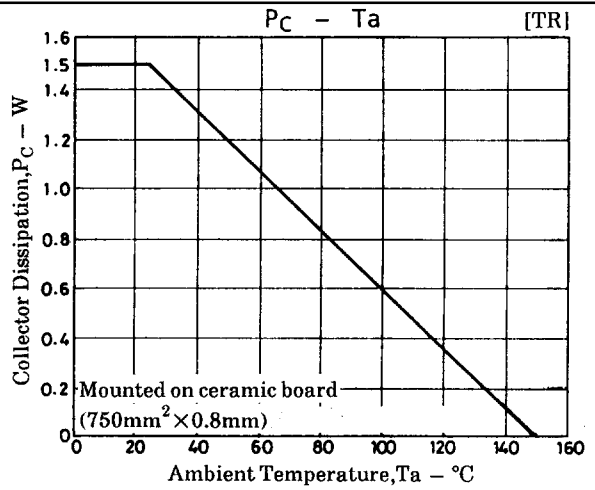
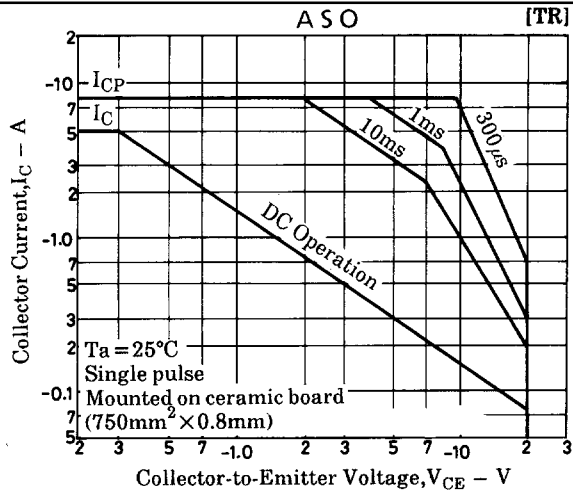
Trr Test Circuit



FX802



FX802



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