

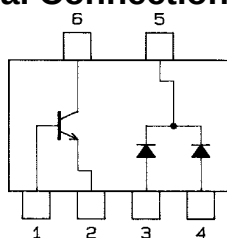
SANYO**FX803**

TR:NPN 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 NPN transistor and a fast recovery and low forward voltage Schottky barrier diode facilitating high-density mounting.
- The FX803 is composed of 2 chips, one being equivalent to the 2SB1628 and the other the SB20W03P, placed in one package.

Electrical Connection

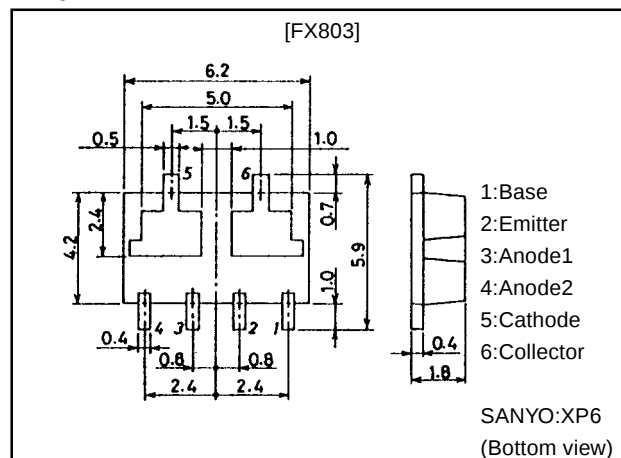
- 1:Base
2:Emitter
3:Anode1
4:Anode2
5:Cathode
6:Collector

(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}		60	V
Collector-to-Emitter Voltage	V _{CE0}		20	V
Emitter-to-Base Voltage	V _{EB0}		6	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] (Value per element)				
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, 1cycle	10	A
Junction Temperature	T _J		-55 to +125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

· Marking:803

Continued on next page.

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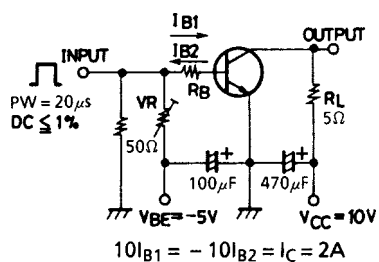
52098HA (KT)/41095TS (KOTO) TA-0135 No.5053-1/4

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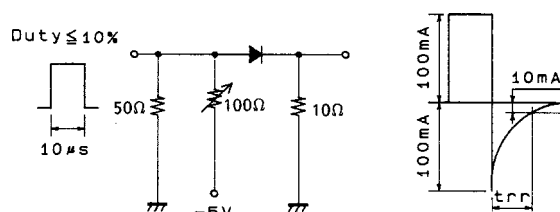
Electrical Characteristics at Ta = 25°C

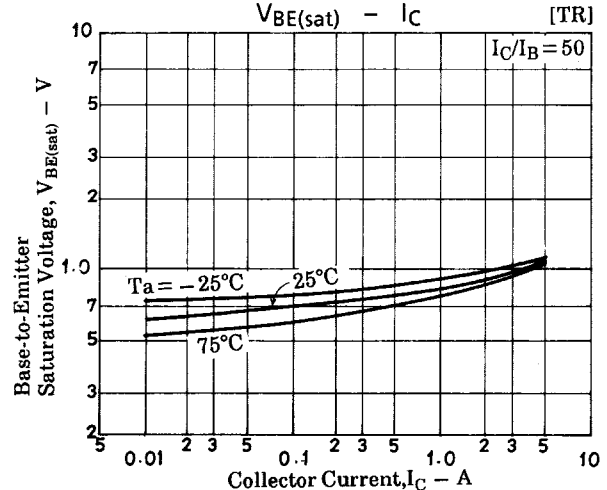
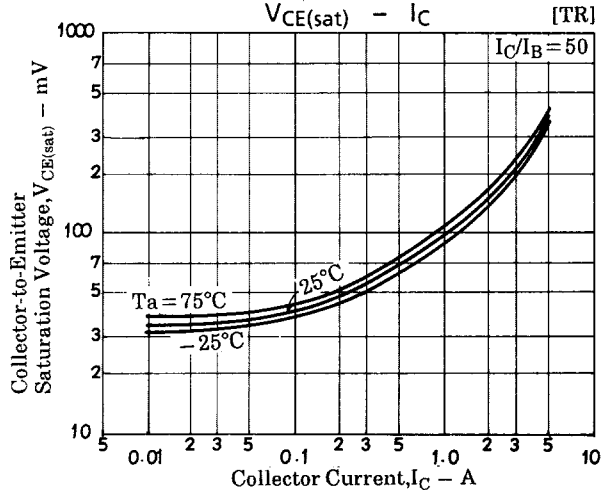
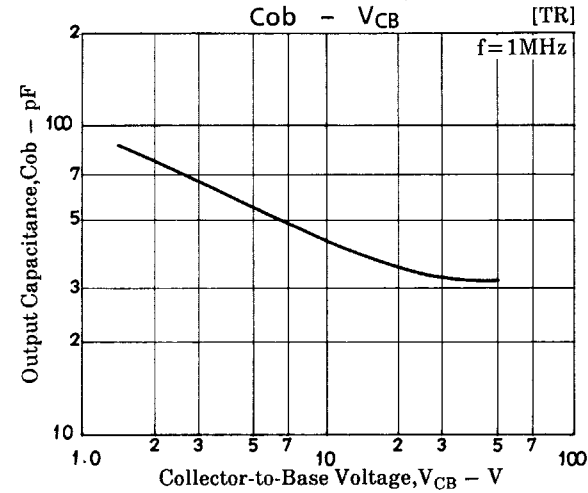
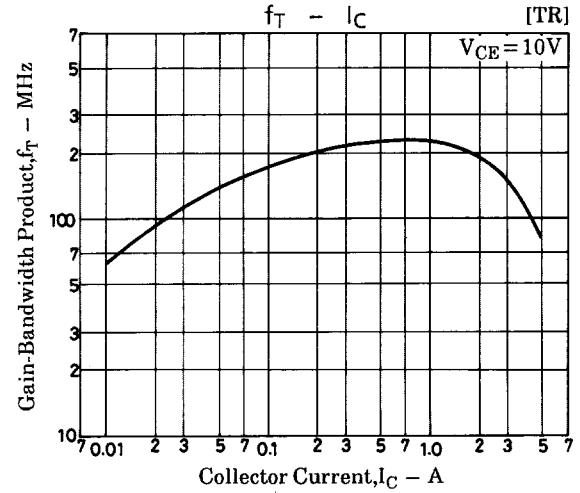
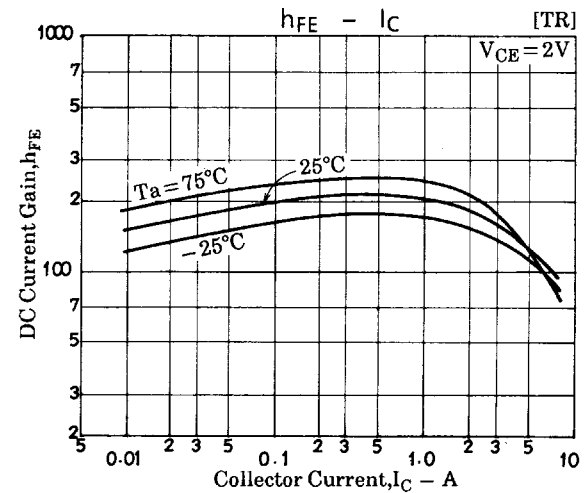
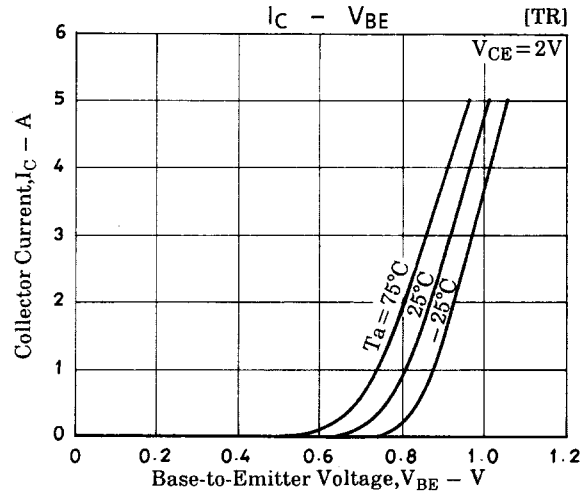
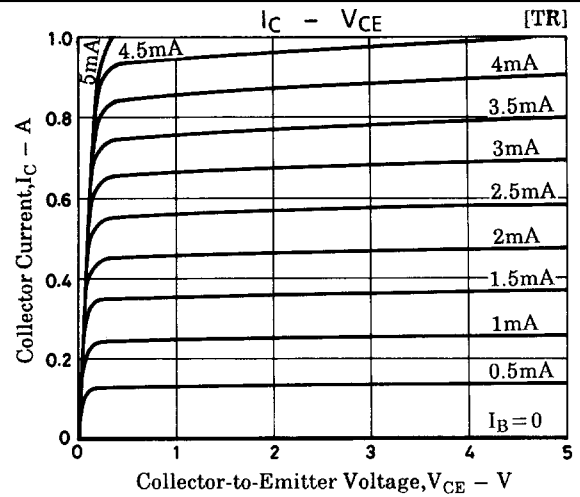
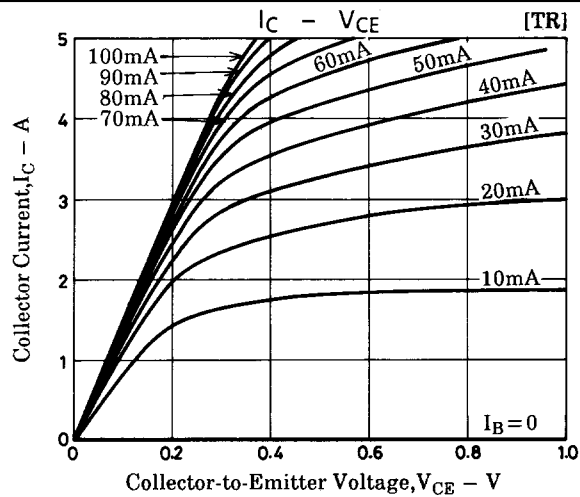
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I _{CBO}	V _{CB} =50V, I _E =0			100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0			100	nA
DC Current Gain	h _{FE} (1)	V _{CE} =2V, I _C =500mA	160		560	
	h _{FE} (2)	V _{CE} =2V, I _C =3A	95			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =500mA		220		MHz
Output Capacitance	C _{ob}	V _{CE} =10V, f=1MHz		45		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C =3A, I _B =60mA		220	500	mV
B-E Saturation Voltage	V _{BE(sat)}	I _C =3A, I _B =60mA		1.0	1.5	V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _E =−1mA, R _{BE} =∞	20			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		30		ns
Storage Time	t _{stg}	See sepcified Test Circuit		300		ns
Fall Time	t _f	See sepcified Test Circuit		40		ns
[SBD] (Value per element)						
Reverse Voltage	V _R	I _R =500μA	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 Clrcuit [TR]

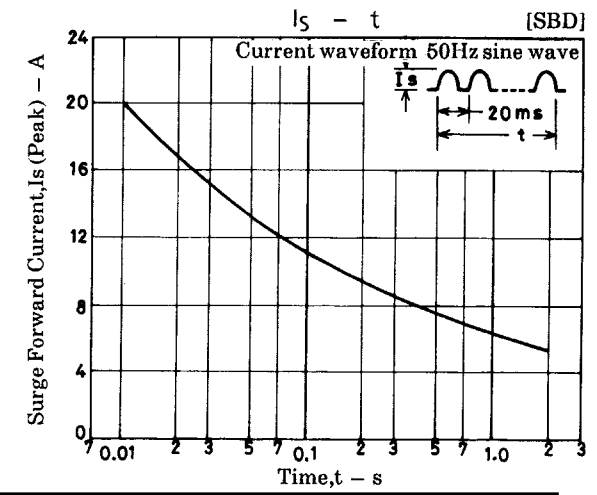
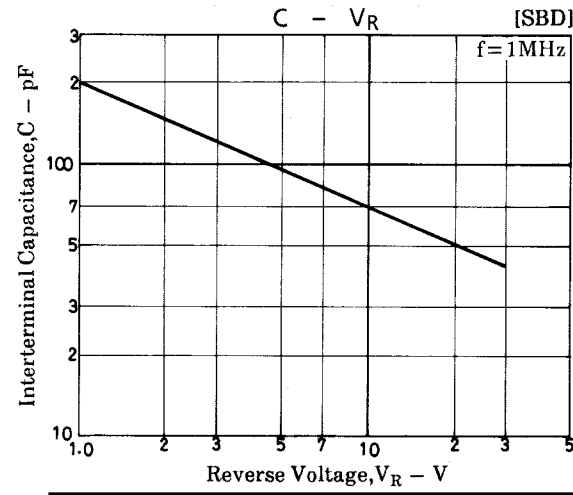
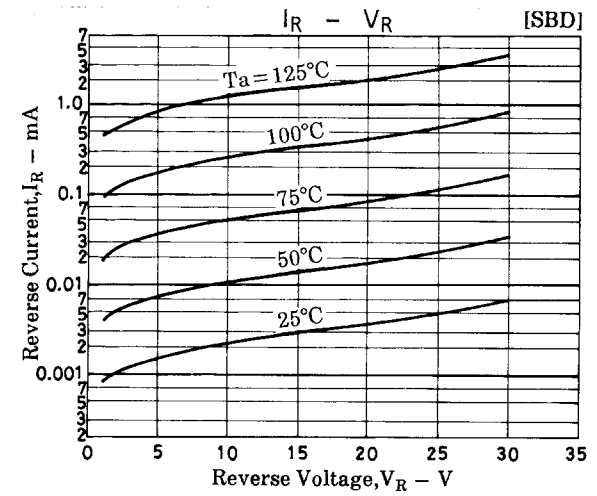
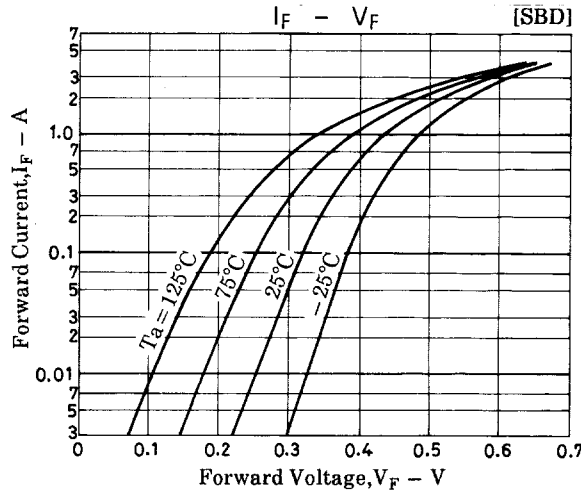
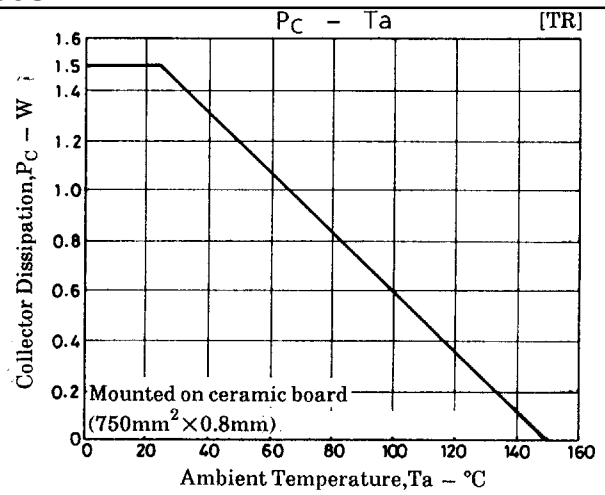
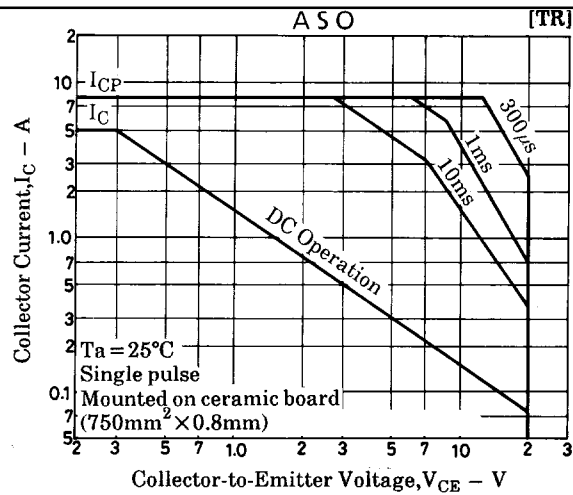


Trr Test Circuit [SBD]





FX803



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