

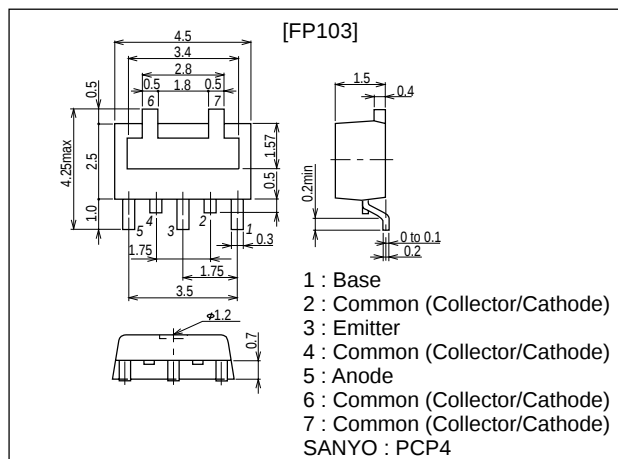
**FP103****DC/DC Converter Applications****Features**

- Composite type with a PNP transistor and a Schottky barrier diode contained in one package, facilitating high-density mounting.
- The FP103 is formed with 2chips, one being equivalent to the 2SB1121 and the other the SB07-03C, placed in one package.

Package Dimensions

unit:mm

2088A

**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		1.3	W
Junction Temperature	T_J	Mounted on a ceramic board (250mm $\times$ 0.8mm)	150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$
[SBD]				
Repetitive Peak Reverse Voltage	V_{RRM}		30	V
Non-repetitive Peak Reverse Surge Voltage	V_{RSM}		35	V
Average Rectified Current	I_O		700	mA
Surge Forward Current	I_{FSM}	50Hz sine wave, 1cycle	5	A
Junction Temperature	T_J		-55 to +125	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$

Marking:103

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SANYO Electric Co.,Ltd. Semiconductor Company

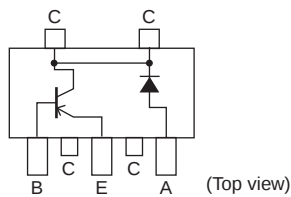
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

80700TS (KOTO)/52098HA (KT)/62094MT (KOTO) AX-8057 No.3962-1/5

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

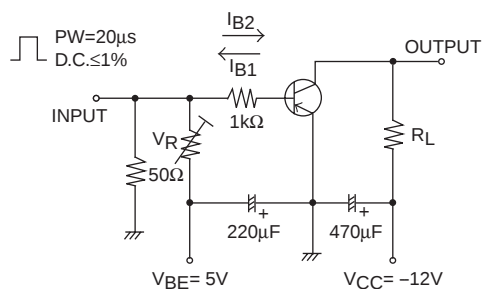
.Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I _{CBO}	V _{CB} =−20V, I _E =0			−0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =−4V, I _C =0			−0.1	μA
DC Current Gain	h _{FE1}	V _{CE} =−2V, I _C =−100mA	140		560	
	h _{FE2}	V _{CE} =−2V, I _C =−1.5A	65			
Gain-Bandwidth Product	f _T	V _{CE} =−10V, I _C =−50mA		150		MHz
Output Capacitance	C _{ob}	V _{CB} =−10V, f=1MHz		32		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =−1.5A, I _B =−75mA		−0.35	−0.6	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =−1.5A, I _B =−75mA		−0.85	−1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =−10μA, I _E =0	−30			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =−1mA, R _{BE} =∞	−25			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =−10μA, I _C =0	−6			V
Turn-ON Time	t _{on}	See specified Test Circuit		60		ns
Storage Time	t _{stg}	See specified Test Circuit		350		ns
Fall Time	t _f	See specified Test Circuit		25		ns
[SBD]						
Reverse Voltage	V _R	I _R =300μA	30			V
Forward Voltage	V _F	I _F =700mA			0.55	V
Reverse Current	I _R	V _R =15V			80	μA
Interterminal Capacitance	C	V _R =10V, f=1MHz		28		pF
Reverse Recovery Time	t _{rr}	I _F =I _R =100mA, See specified Test Circuit			10	ns
Thermal Resistance	R _{thj-a}	Mounted on a ceramic board (250mm²×0.8mm)		120		

Electrical Connection



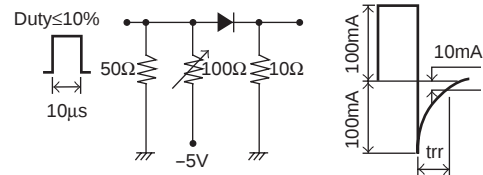
Switching Time Test Circuit

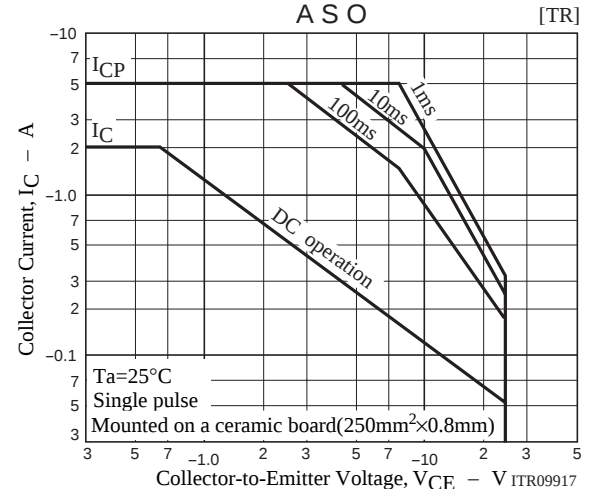
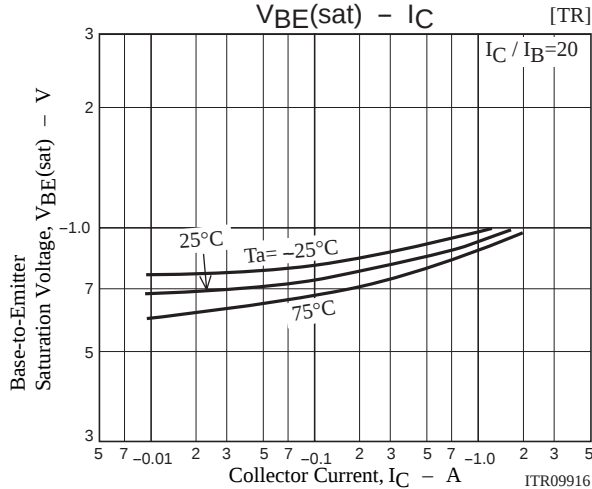
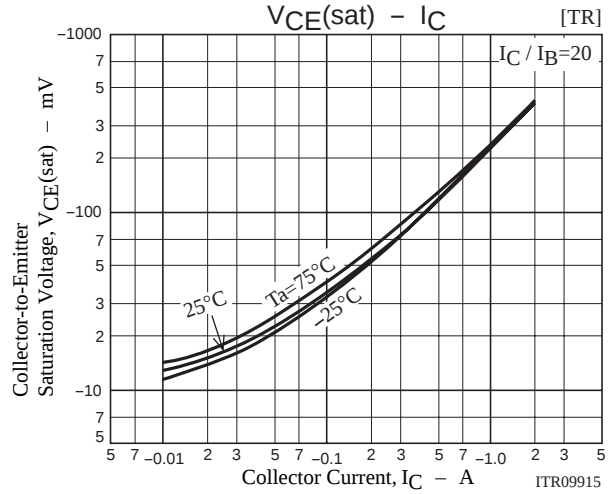
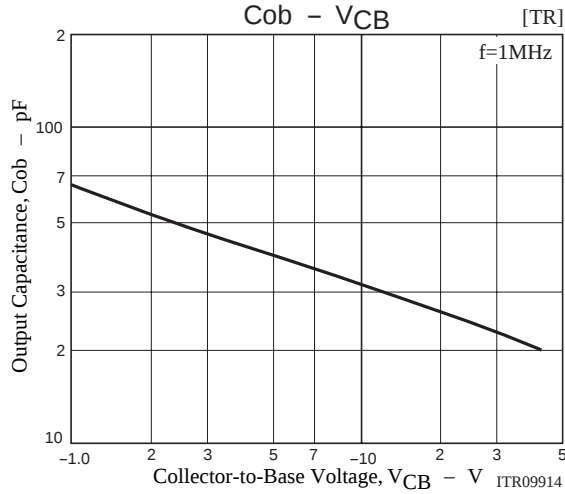
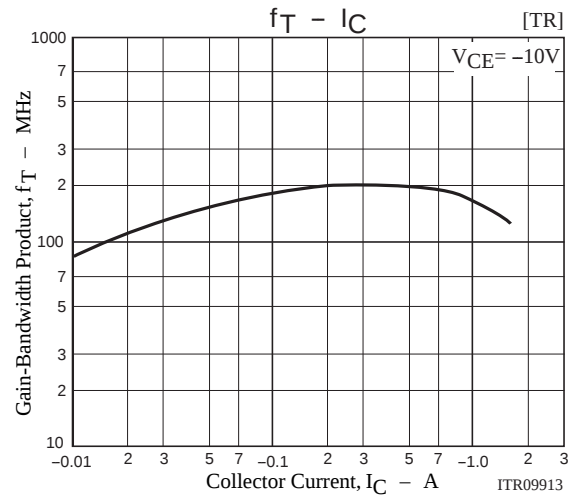
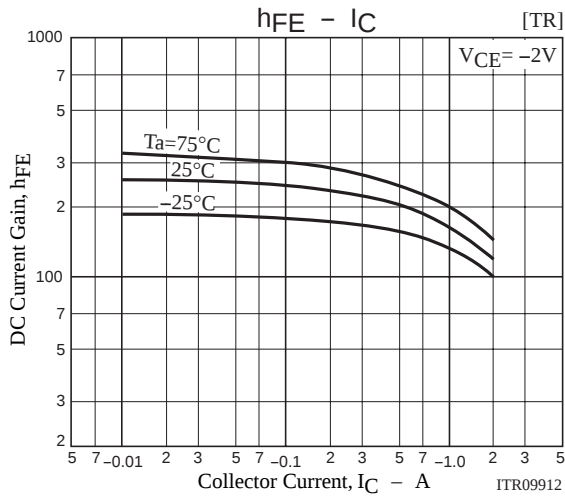
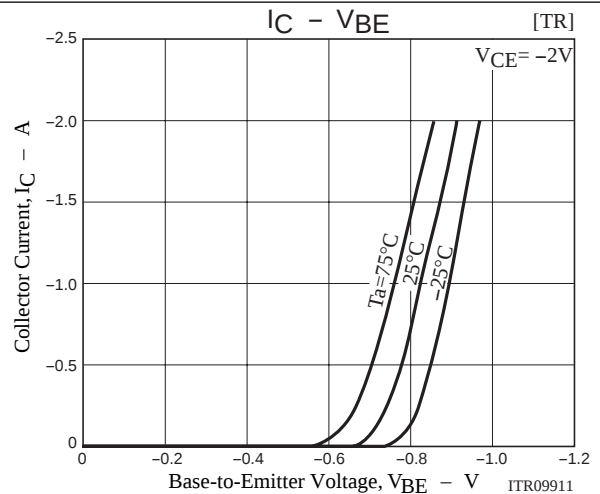
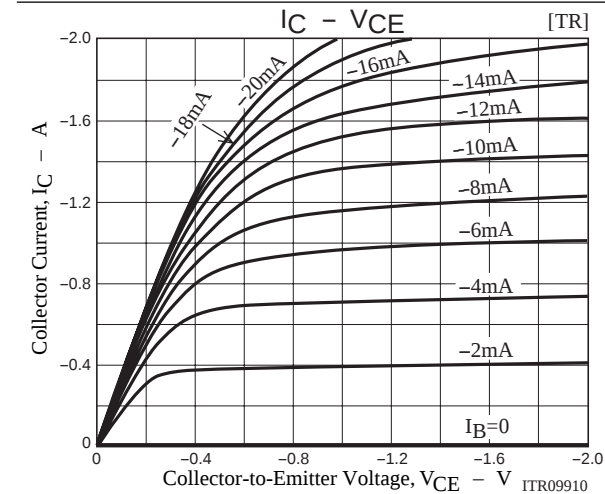
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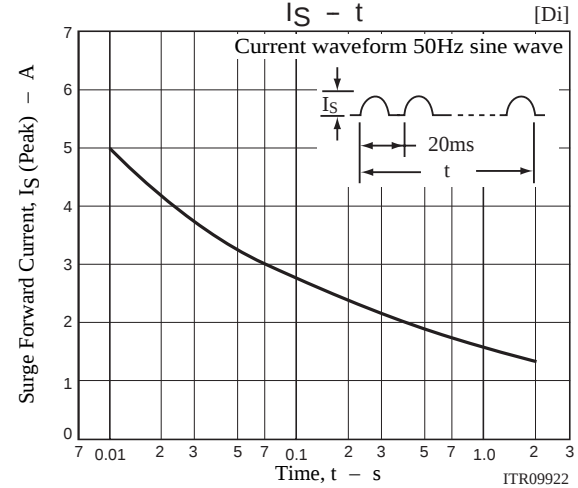
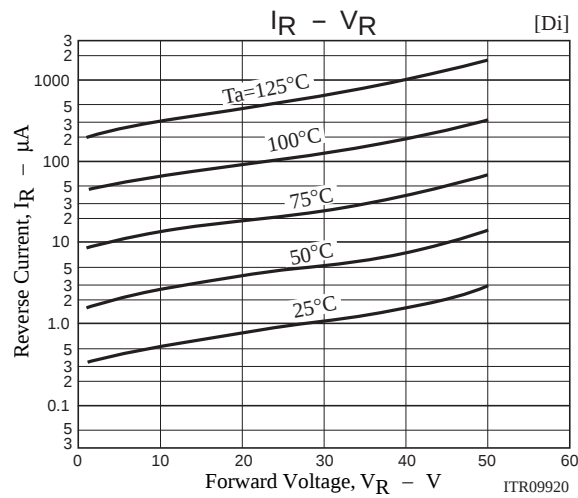
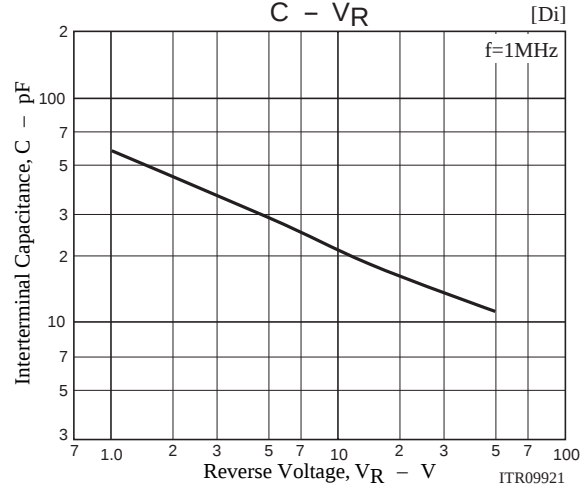
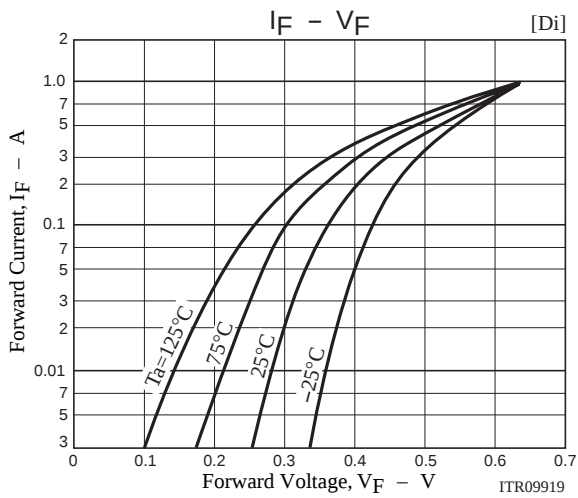
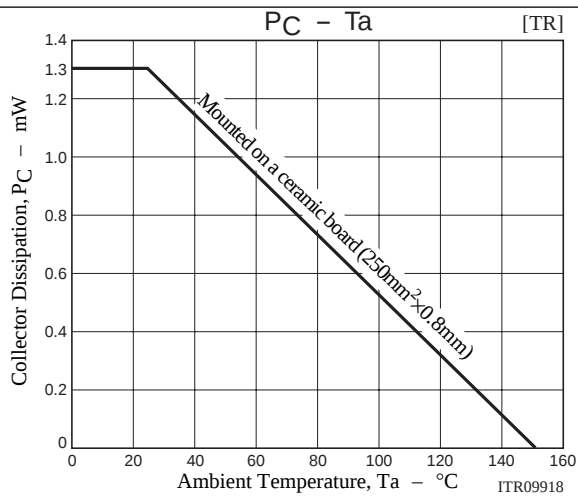


$$-20I_{B1} = 20I_{B2} = I_C = -500\text{mA}$$

[SBD]







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