2SC4002



High-Voltage Driver Applications

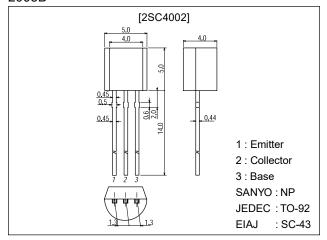
Features

- · High breakdown voltage.
- · Adoption of MBIT process.
- · Excellent hFE linearity.

Package Dimensions

unit:mm

2003B



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		400	V
Collector-to-Emitter Voltage	VCEO		400	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	IC		200	mA
Collector Current (Pulse)	I _{CP}		400	mA
Collector Dissipation	PC		600	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector Cutoff Current	I _{CBO}	V _{CB} =300V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =10V, I _C =50mA	60*		200*	
Gain-Bandwidth Product	f _T	V _{CE} =30V, I _C =10mA		70		MHz
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =50mA, I _B =5mA			0.6	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =50mA, I _B =5mA			1.0	V

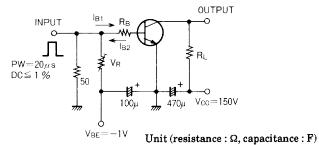
^{*}: The 2SC4002 is classified by 50mA h_{FE} as follows:

60 D 120 100 E 200

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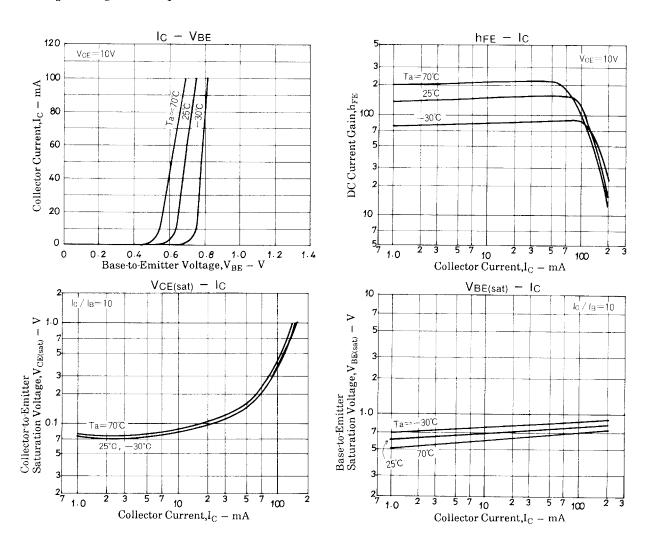
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oille
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =10μA, I _E =0	400			V
Collector-to-Emitter Breakdown Voltage	V _(BR) CEO	I _C =1mA, R _{BE} =∞	400			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	5			V
Output Capacitance	C _{ob}	V _{CB} =30V, f=1MHz		4		pF
Reverse Transfer Capacitance	C _{re}	V _{CB} =30V, f=1MHz		3		pF
Turn-ON Time	t _{on}	See specified test circuit.		0.25		μs
Turn-OFF Time	t _{off}	See specified test circuit.		5.0		μs

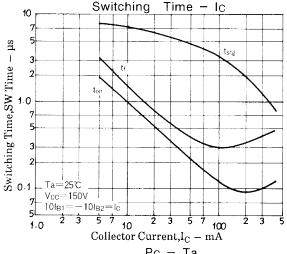
Switching Time Test Circuit

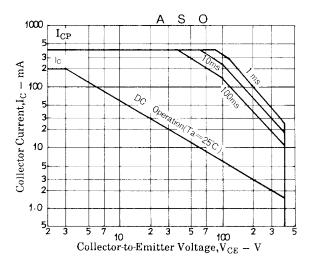


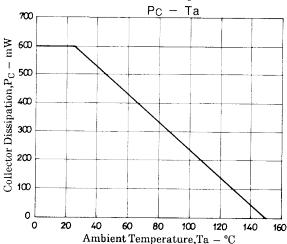
 $101_{B1} = -101_{B2} = 1_{C} = 50 \text{mA}$

 $R_L = 3k\Omega$, $R_B = 200\Omega$ at $I_C = 50 \text{mA}$









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