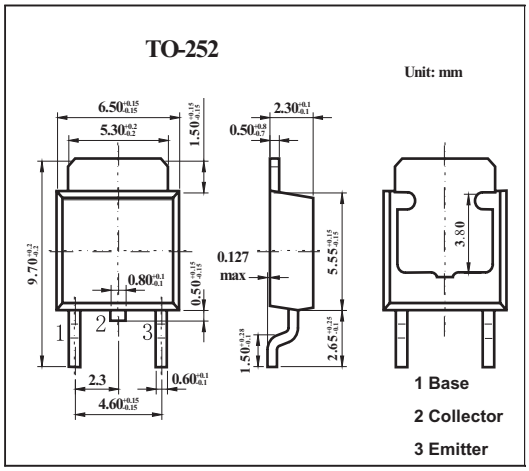
TY Semicondutor®

Product specification

2SC4003



■ Features

- High breakdown voltage
- Adoption of MBIT process
- Excellent h_{FE} linearity

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	400	V
Collector to emitter voltage	V_{CEO}	400	V
Emitter to base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	200	mA
Collector current (Pulse)	I_{cp}	400	mA
Total Power dissipation Ta = 25℃	P_C	1	W
T_C = 25℃		10	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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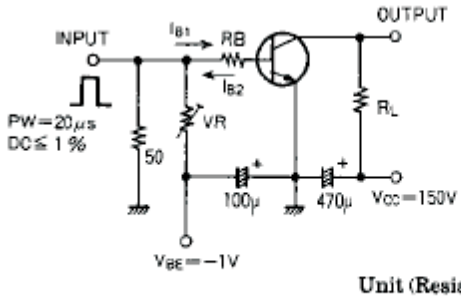
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
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	fT	V_{CE}=30V,I_C=10mA		70		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=50mA,I_B=5mA			0.6	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=50mA,I_B=5mA			1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0	400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,R_{BE}=∞	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	5			V
Output Capacitance	Cob	V_{CB}=30V,f=1MHz		4		pF
Reverse Transfer Capacitance	Cre	V_{CB}=30V,f=1MHz		3		pF
Turn-ON Time	t_{on}	see specified Test Circuit		0.25		μs
Turn-OFF Time	t_{off}			5		μs

■ Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

$10I_{B1}=-10I_{B2}=I_C=50mA$

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

■ h_{FE} Classification

Marking	D	E
hFE	60 to 120	100 to 200