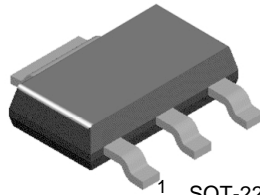


# SB29003

## High Voltage Transistor



1 SOT-223  
Marking: 5463003  
1.Base 2.Collector 3.Emitter

### Absolute Maximum Ratings T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	500	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current	300	mA
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> = 25°C)	2	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

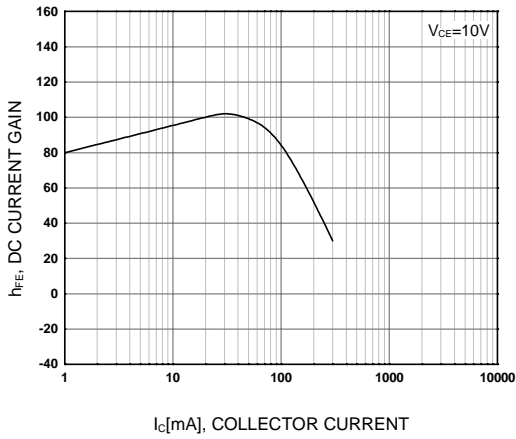
### Electrical Characteristics T<sub>C</sub> = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
BV <sub>CB0</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 100μA, I <sub>B</sub> = 0	500		V
BV <sub>CER</sub>	Collector-Emitter Breakdown Voltage *	I <sub>C</sub> = 1mA, I <sub>B</sub> = 0	400		V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 100μA, I <sub>C</sub> = 0	6		V
I <sub>CB0</sub>	Collector Cut-off Current	V <sub>CB</sub> = 400V, I <sub>E</sub> = 0		0.1	μA
I <sub>CES</sub>	Collector Cut-off Current	V <sub>CE</sub> = 400V, I <sub>B</sub> = 0		0.5	μA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0		0.1	μA
h <sub>FE</sub>	DC Current Gain *	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1mA V <sub>CE</sub> = 10V, I <sub>C</sub> = 10mA V <sub>CE</sub> = 10V, I <sub>C</sub> = 50mA V <sub>CE</sub> = 10V, I <sub>C</sub> = 100mA	40 50 45 40	200	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage *	I <sub>C</sub> = 1mA, I <sub>B</sub> = 0.1mA I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA I <sub>C</sub> = 50mA, I <sub>B</sub> = 5mA		0.4 0.5 0.75	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage *	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA		0.75	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = 20V, I <sub>E</sub> = 0, f = 1MHz		7	pF

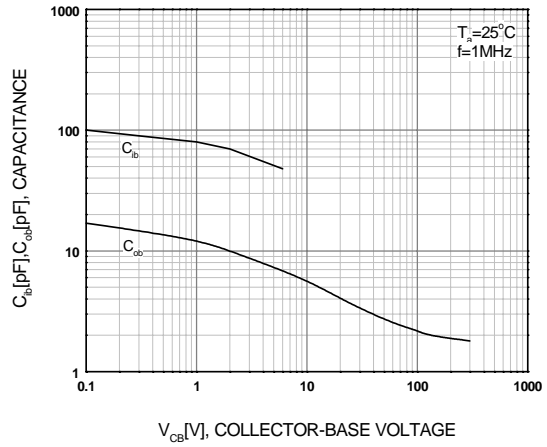
\* Pulse Test: PW ≤ 300μs, Duty Cycle ≤ 2%

## Typical Performance Characteristics

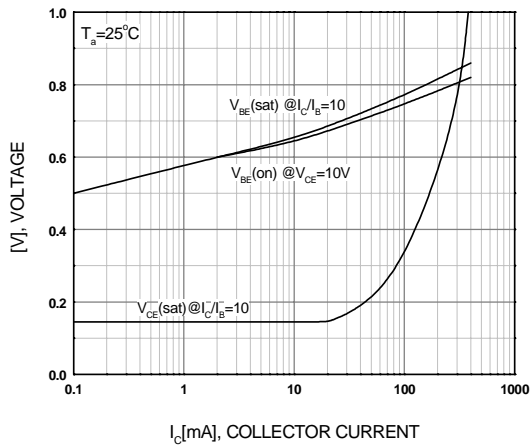
**Figure 1. DC Current Gain**



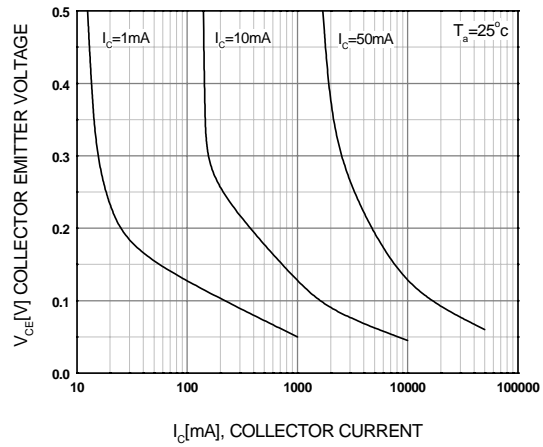
**Figure 2. Capacitance**



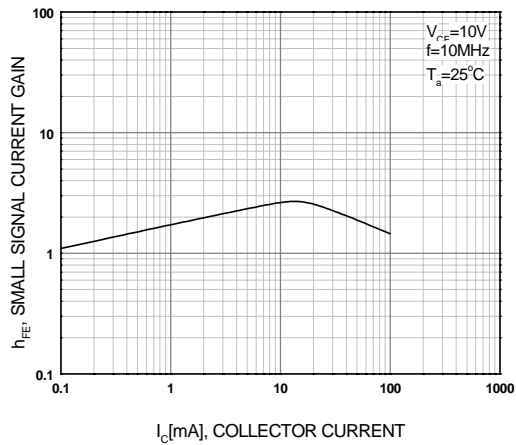
**Figure 3. On Voltage**



**Figure 4. Collector Saturation Region**

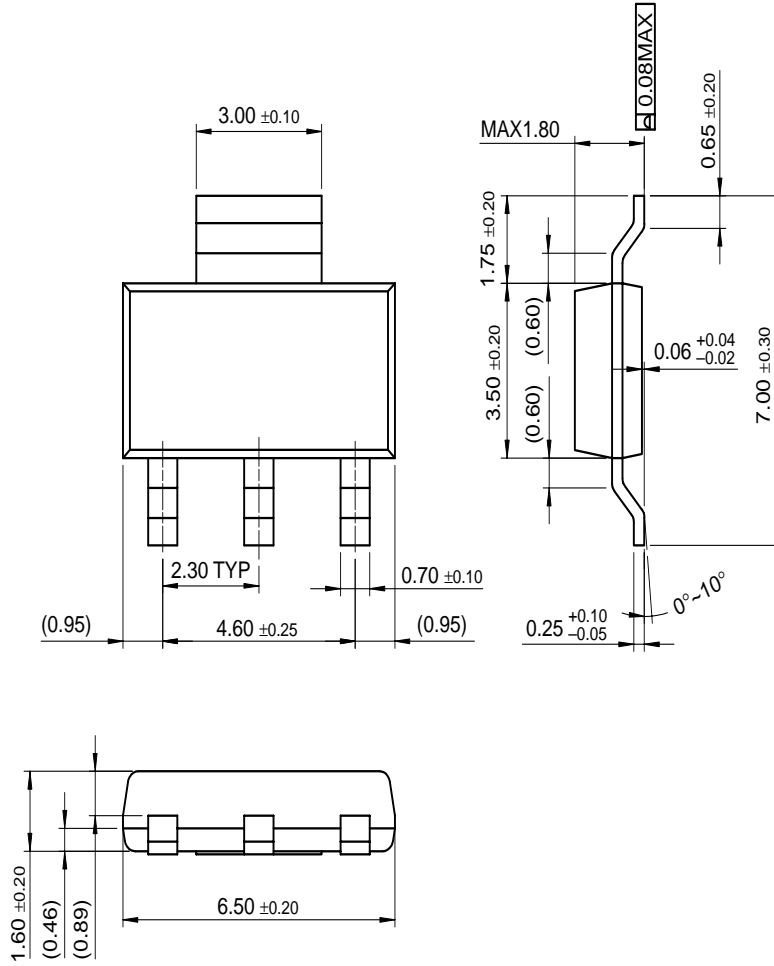


**Figure 5. High Frequency Current Gain**



Mechanical Dimensions

SOT-223



Dimensions in Millimeters

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CoolFET™	FRFET™	MicroFET™	PowerTrench <sup>®</sup>	SuperSOT™-6
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DOME™	GTO™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	HiSeC™	MSX™	QT Optoelectronics™	TinyLogic <sup>®</sup>
E <sup>2</sup> CMOST™	I <sup>2</sup> C™	MSXPro™	Quiet Series™	TINYOPTO™
EnSigna™	<i>i-Lo</i> ™	OCX™	RapidConfigure™	TruTranslation™
FACT™	ImpliedDisconnect™	OCXPro™	RapidConnect™	UHC™
FACT Quiet Series™		OPTOLOGIC <sup>®</sup>	μSerDes™	UltraFET <sup>®</sup>
Across the board. Around the world.™		OPTOPLANAR™	SILENT SWITCHER <sup>®</sup>	UniFET™
The Power Franchise <sup>®</sup>		PACMAN™	SMART START™	VCX™
Programmable Active Droop™		POP™	SPM™	

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