

## Silicon Epitaxial Planar Transistor

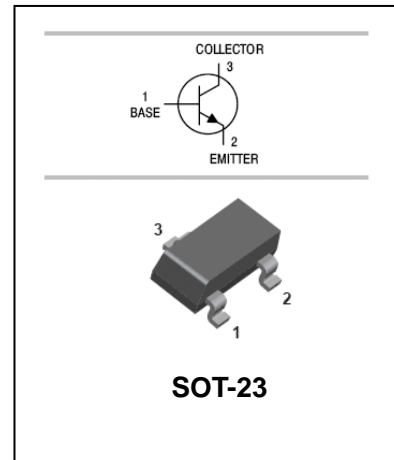
## 2SC5345

### FEATURES

- High current transition frequency.
- Low output capacitance:  $C_{ob}=1.4\text{pF}$
- Low base time constant and high gain.
- Excellent noise response.



Lead-free



### APPLICATIONS

- General small signal amplifier.

### ORDERING INFORMATION

Type No.	Marking	Package Code
2SC5345	5345	SOT-23

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	20	V
$V_{EBO}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current	20	mA
$P_C$	Collector Dissipation	200	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55~150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

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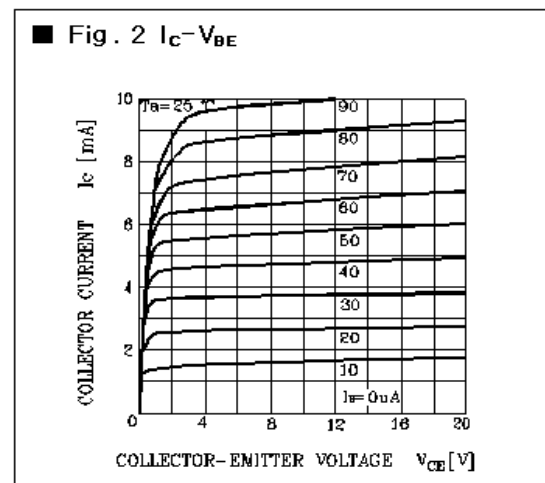
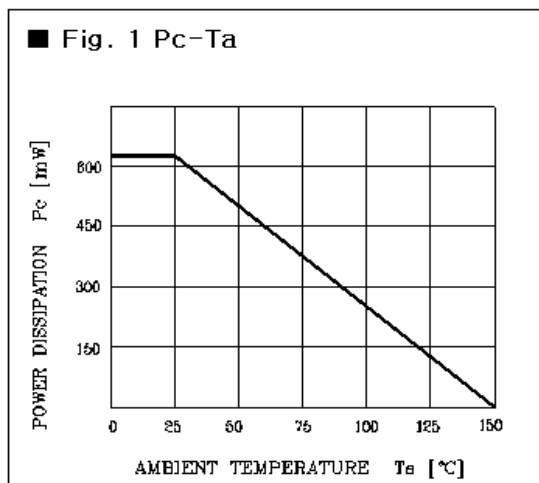
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Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	4			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30V, I_E=0$			0.5	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.5	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=6V, I_C=1mA$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.3	V
Transition frequency	$f_T$	$V_{CE}=6V, I_C=1mA$	550			MHz
Output capacitance	$C_{ob}$	$V_{CB}=6V, I_E=0, f=100MHz$			1.4	pF

### CLASSIFICATION OF $h_{FE}$

Rank	R	O	Y
Range	40-80	70-140	120-240
Marking	5345		

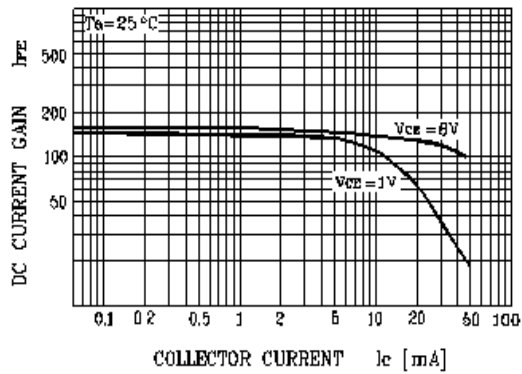
### TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified



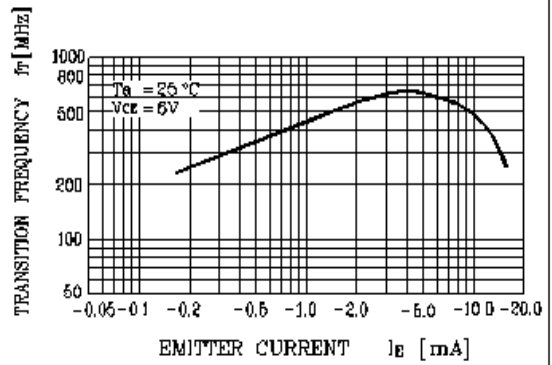
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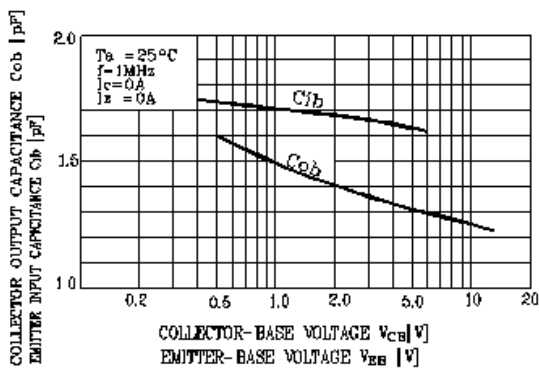
■ Fig. 3  $h_{FE}-I_C$



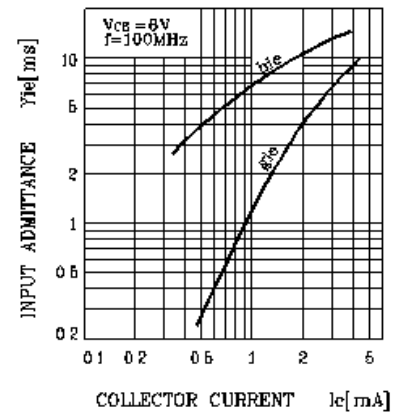
■ Fig. 4  $f_T-I_E$



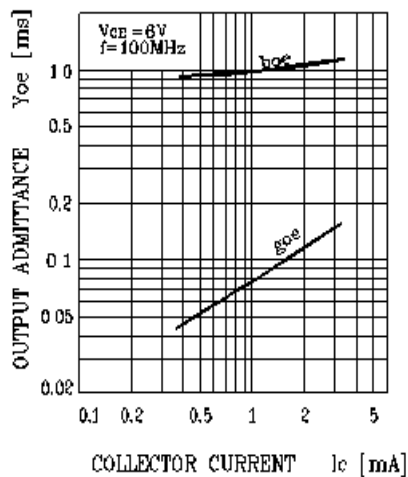
■ Fig. 5  $V_{CB}, V_{BE}-C_{ob}$



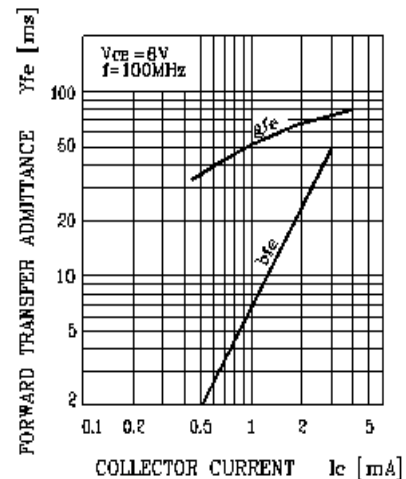
■ Fig. 6  $I_C-Y_{ie}$



■ Fig. 6  $I_C-Y_{oe}$



■ Fig. 7  $I_C-Y_{fe}$



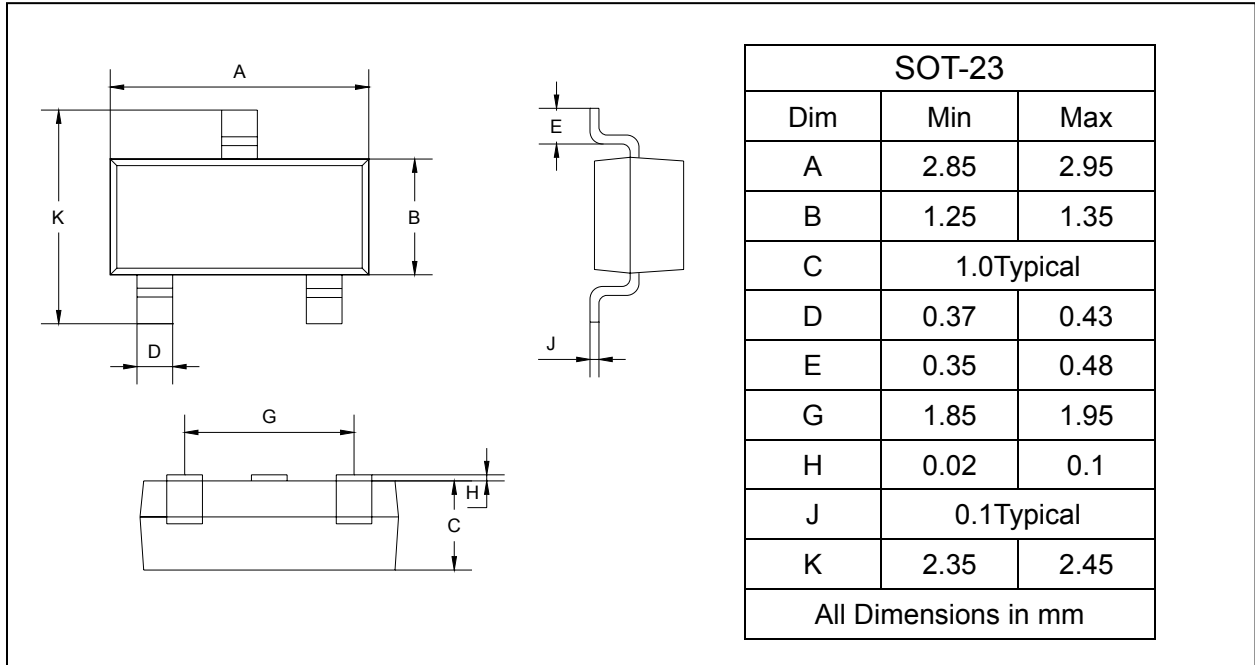
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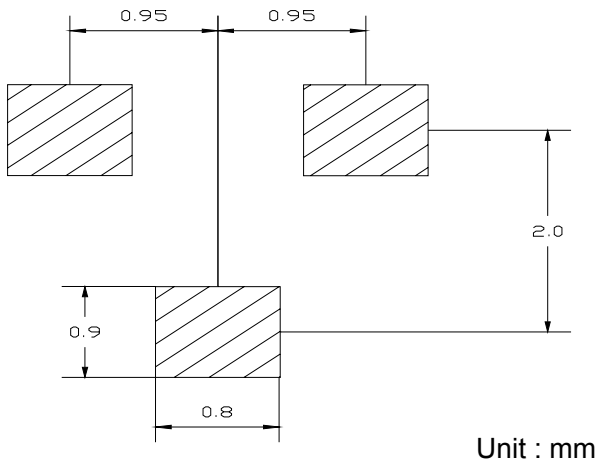
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
2SC5345	SOT-23	3000/Tape&Reel