

**2SC3792**

## High $h_{FE}$ , Low-Frequency General-Purpose Amplifier Applications

### Applications

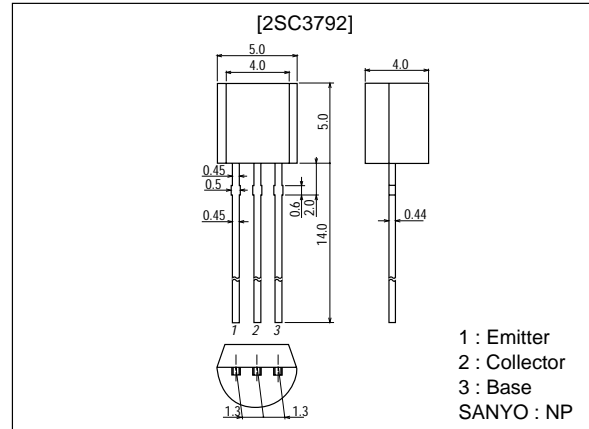
- Low frequency general-purpose amplifiers, drivers, muting circuits.

### Features

- Adoption of FBET process.
- High DC current gain.
- High  $V_{EBO}$  ( $V_{EBO} \geq 25V$ ).
- High reverse  $h_{FE}$  (150 typ).
- Small ON resistance [ $R_{on}=1\Omega$  ( $I_B=5mA$ )]

### Package Dimensions

unit:mm  
2003B



### Specifications

**Absolute Maximum Ratings** at  $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		50	V
Collector-to-Emitter Voltage	$V_{CEO}$		20	V
Emitter-to-Base Voltage	$V_{EBO}$		25	V
Collector Current	$I_C$		500	mA
Collector Current (Pulse)	$I_{CP}$		800	mA
Base Current	$I_B$		100	mA
Collector Dissipation	$P_C$		500	mW
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

**Electrical Characteristics** at  $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40V, I_E=0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=20V, I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=10mA$	300		1200	
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=10mA$		250		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		4.0		pF

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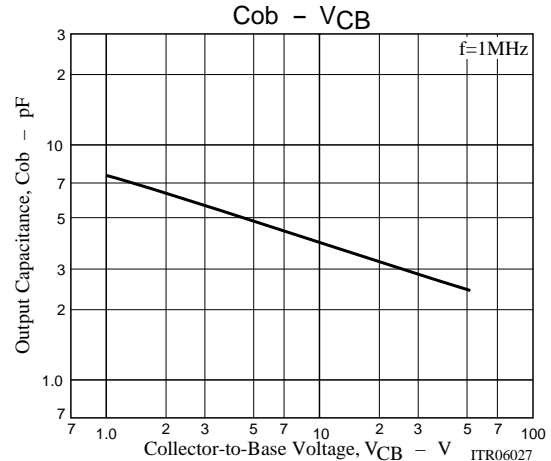
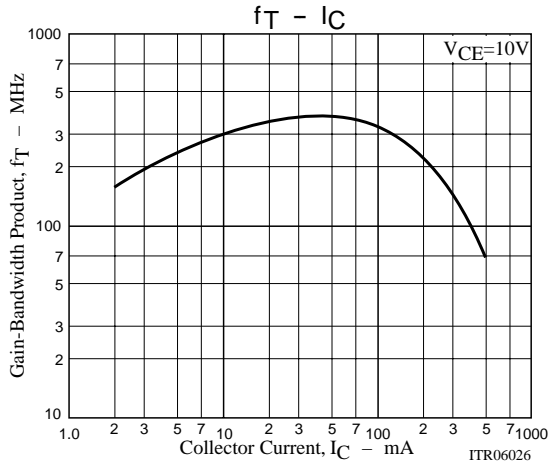
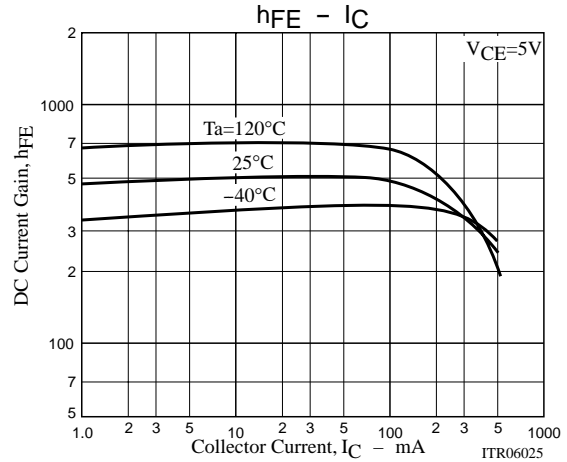
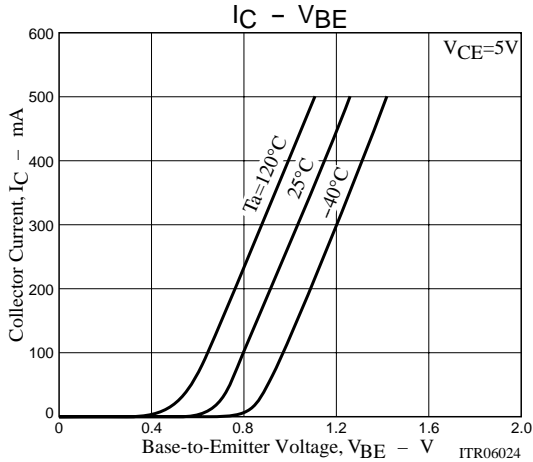
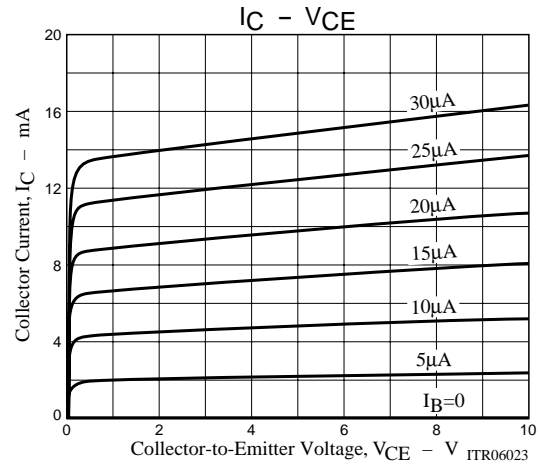
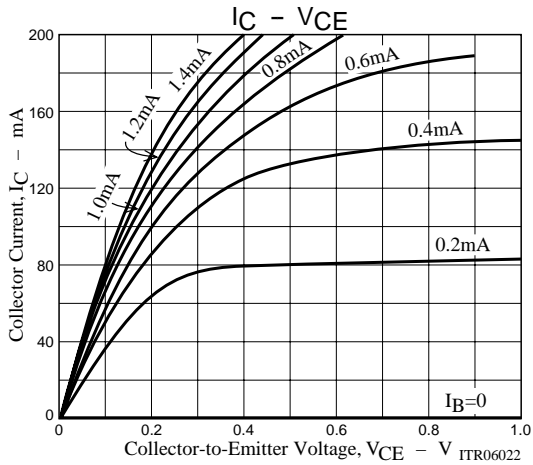
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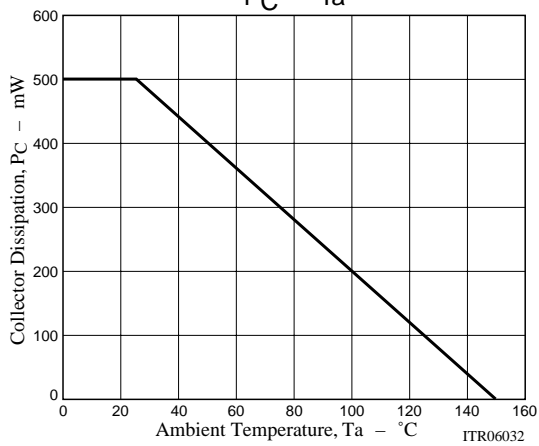
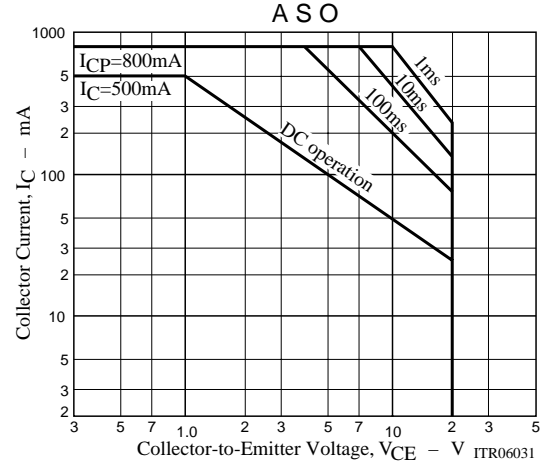
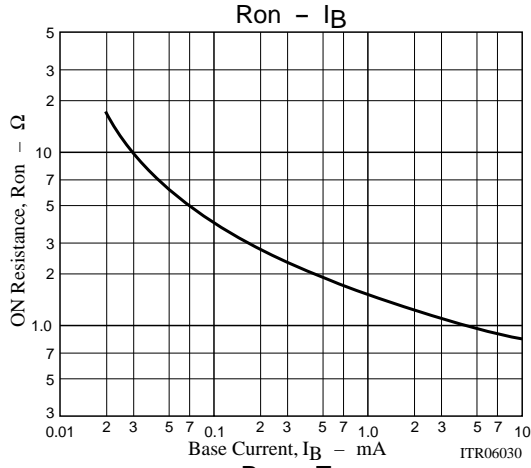
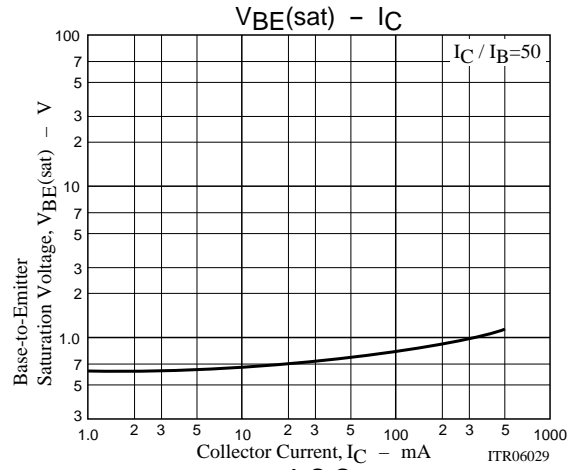
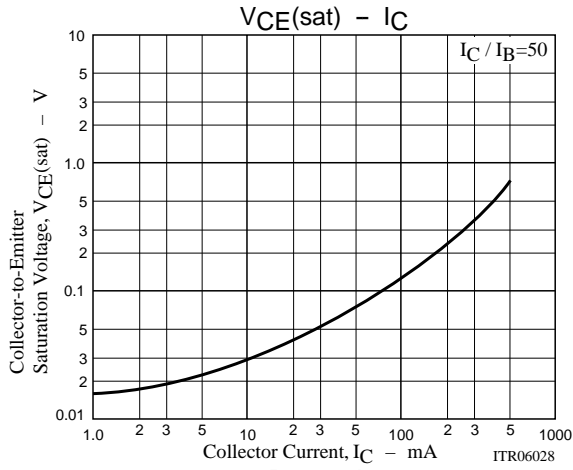
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=2mA$		0.12	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_E=2mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	20			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	25			V



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