

NPN Triple Diffused Planar Silicon Transistor



2SC4451

1500V/15mA High-Voltage Amplifier, High-Voltage Switching Applications

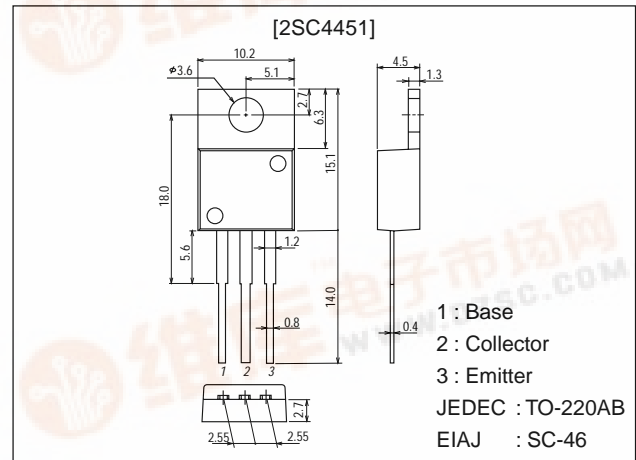
Features

- High breakdown voltage.
- Small C_{ob} .
- Wide ASO.
- High reliability (Adoption of HVP process).

Package Dimensions

unit:mm

2010C



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1500	V
Collector-to-Emitter Voltage	V_{CEO}		1500	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		15	mA
Collector Current (Pulse)	I_{CP}		50	mA
Collector Dissipation	P_C		1.75	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

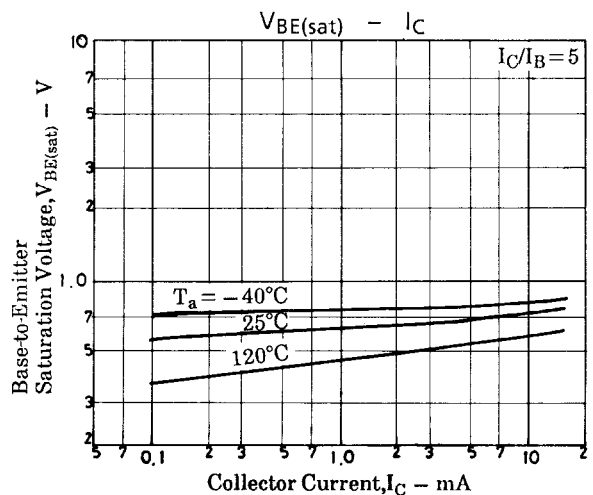
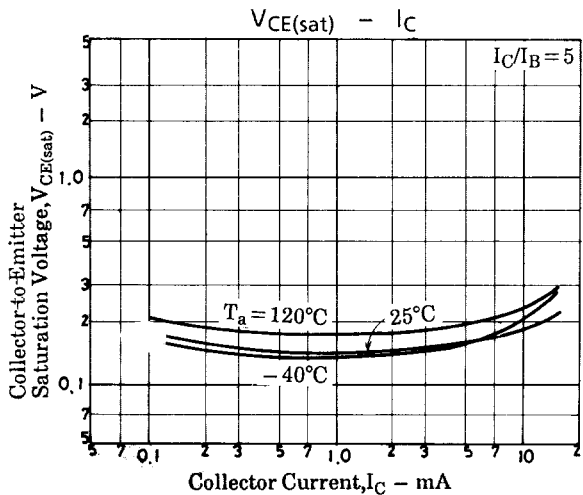
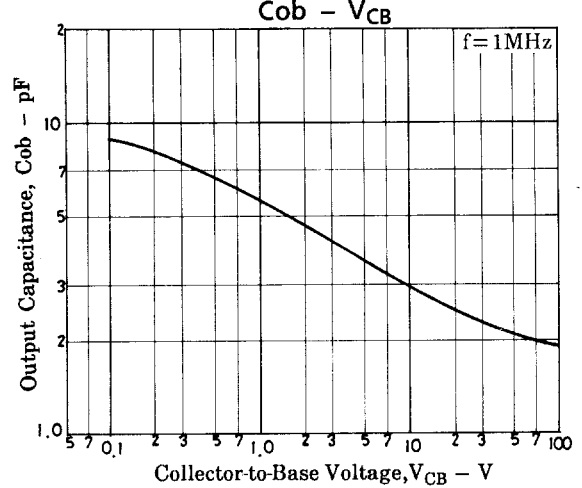
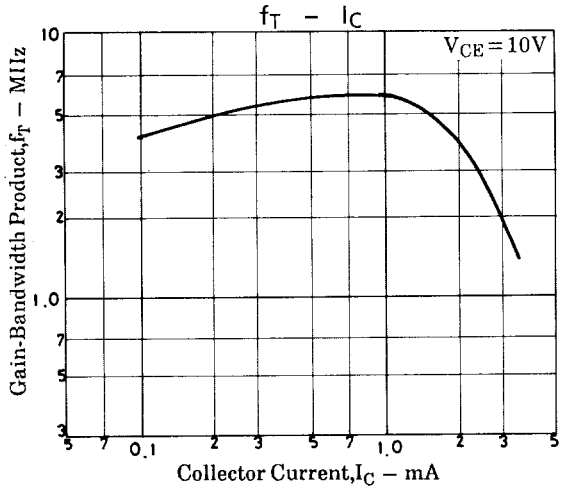
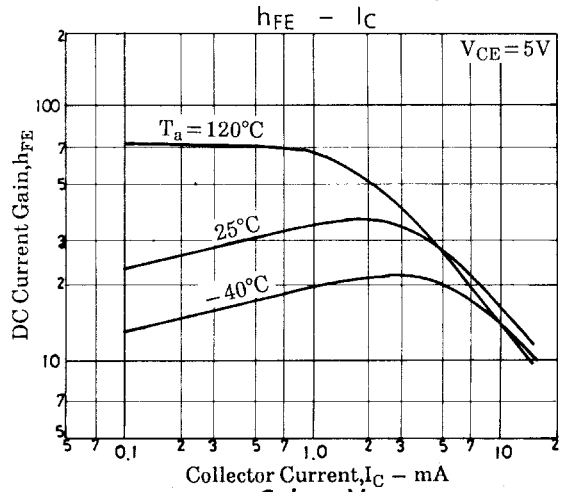
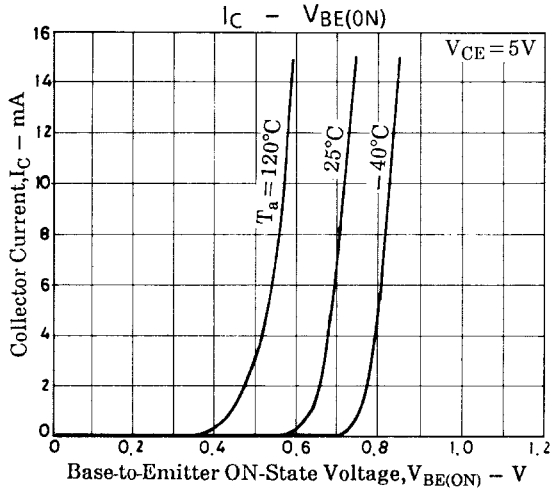
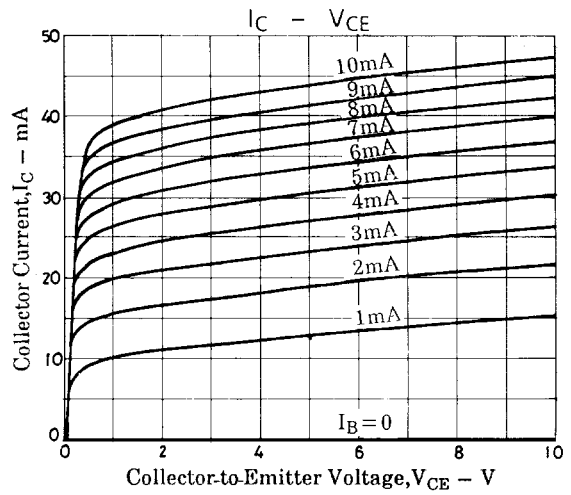
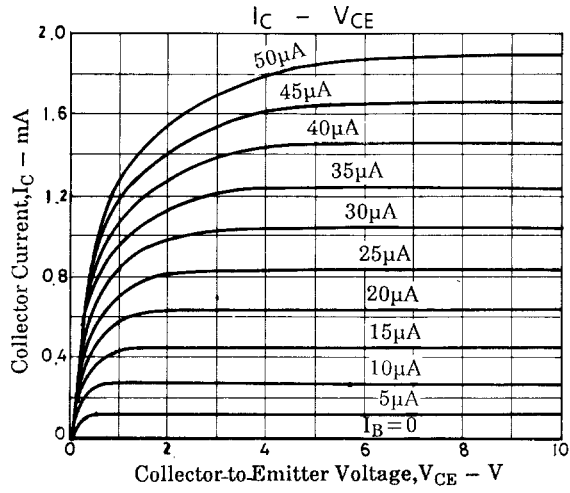
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=1500\text{V}, I_E=0$			1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1	μA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=600\mu\text{A}$	10		60	
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=600\mu\text{A}$		6		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5\text{mA}, I_B=0.3\text{mA}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5\text{mA}, I_B=0.3\text{mA}$			2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	1500			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	1500			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Output Capacitance	C_{ob}	$V_{CB}=100\text{V}, f=1\text{MHz}$		1.9		pF

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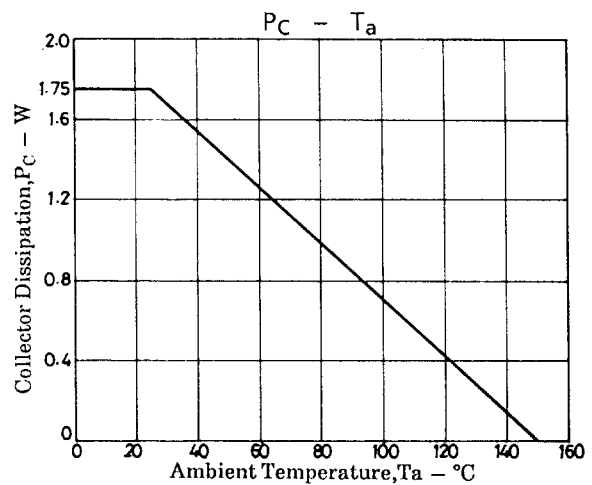
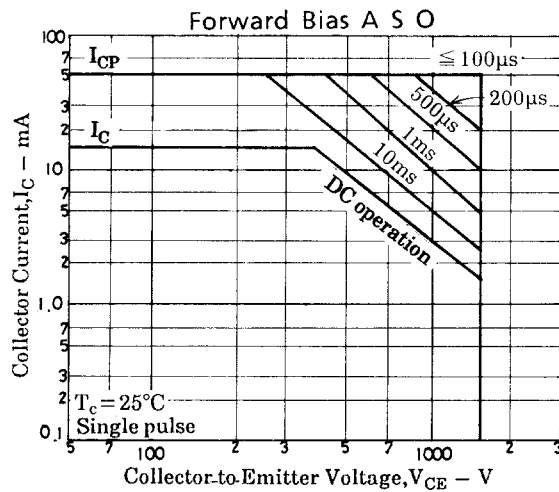
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