

NPN Triple Diffused Planar Silicon Transistor



**2SC4031**

**900V/20mA Switching Applications**

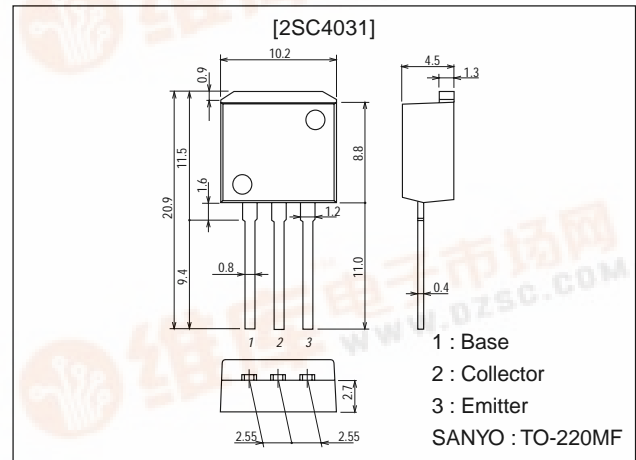
**Features**

- High breakdown voltage ( $V_{CEO}$  min=900V).
- Small Output Capacitance ( $C_{ob}$  typ=1.6pF).
- Wide ASO (adoption of MBIT process).
- High reliability (adoption of HVP process).

**Package Dimensions**

unit:mm

2049C



**Specifications**

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		2000	V
Collector-to-Emitter Voltage	$V_{CEO}$		900	V
Emitter-to-Base Voltage	$V_{EBO}$		5	V
Collector Current	$I_C$		20	mA
Collector Current (Pulse)	$I_{CP}$		60	mA
Collector Dissipation	$P_C$		1.65	W
		$T_c=25^\circ C$	1.2	W
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	$I_{CB0}$	$V_{CB}=900V, I_E=0$			1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=1mA$	20	50	120	
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=1mA$		6		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2mA, I_B=400\mu A$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2mA, I_B=400\mu A$			2	V

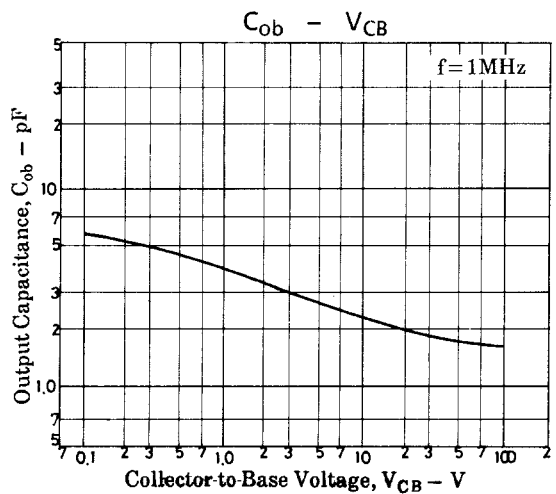
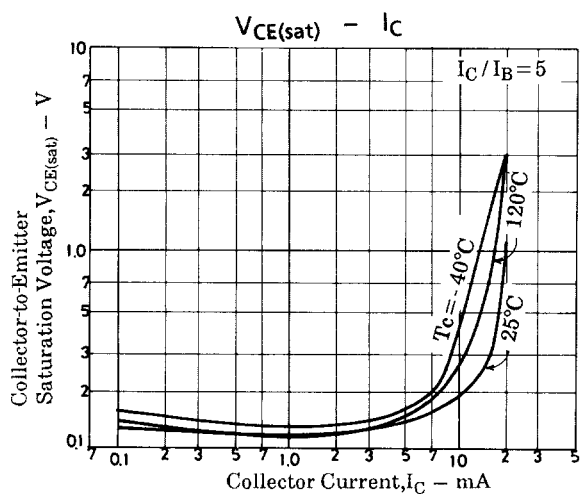
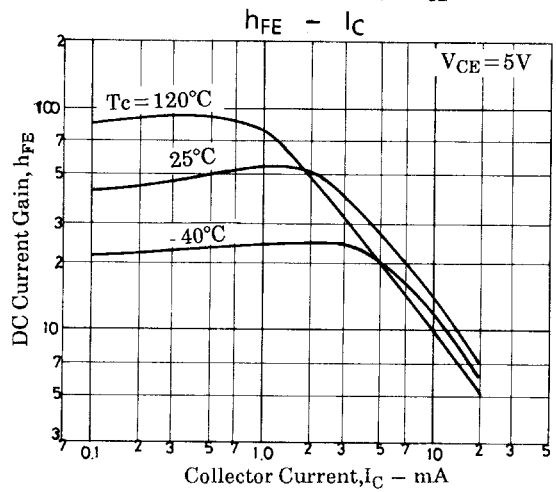
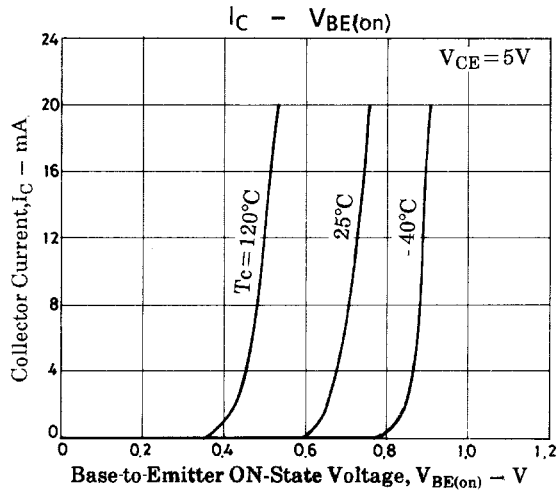
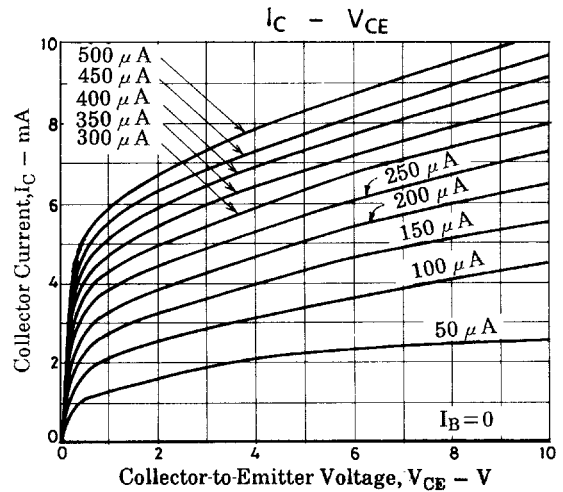
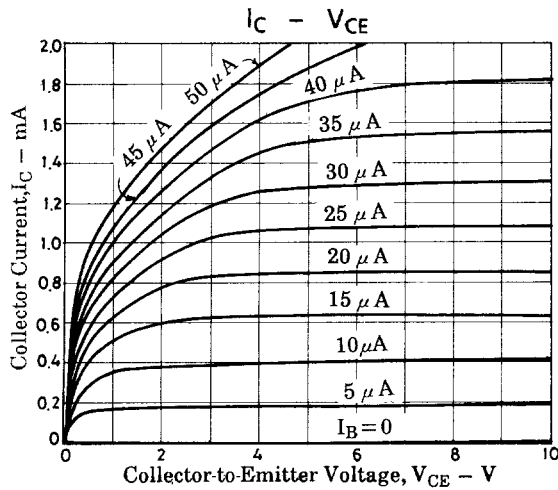
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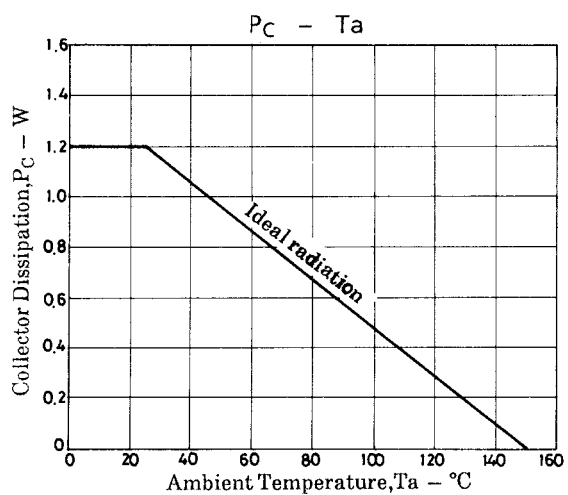
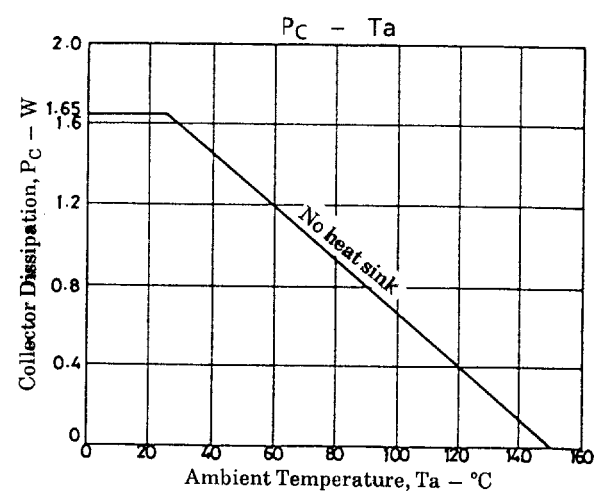
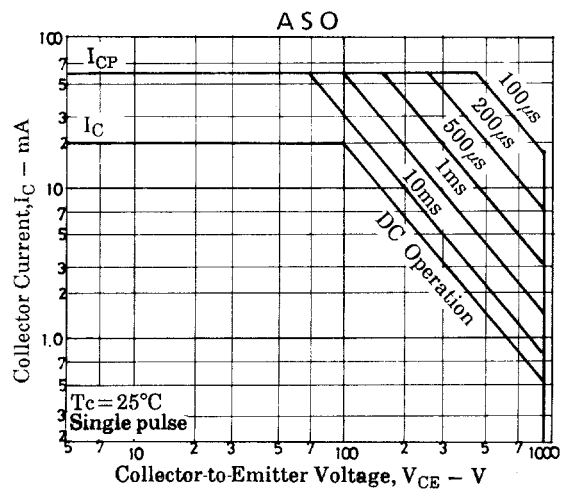
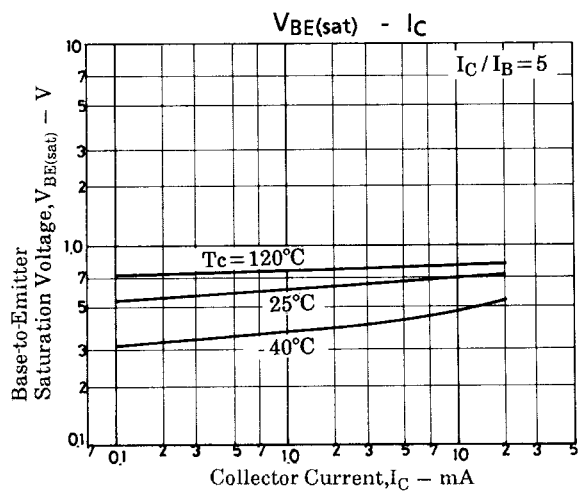
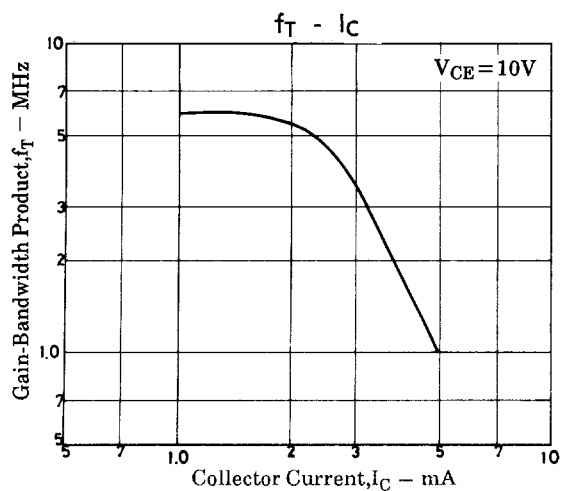


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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	2000			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	900			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	5			V
Output Capacitance	$C_{ob}$	$V_{CB}=100V, f=1MHz$		1.6		pF



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