



# 2SA2063 / 2SC5775

PNP Epitaxial Planar Silicon Transistor  
NPN Triple Diffused Planar Silicon Transistor  
**160V / 12A, AF90W**

## Output Applications

### Features

- Large current capacitance.
- Wide ASO and high durability against breakdown.
- Adoption of MBIT process.

### Specifications Note\*( ) : 2SA2063

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)180	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		(-)160	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		(-)6	V
Collector Current	I <sub>C</sub>		(-)12	A
Collector Current (Pulse)	I <sub>CP</sub>		(-)24	A
Collector Dissipation	P <sub>C</sub>		2.5	W
		T <sub>C</sub> =25°C	130	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

#### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)180V, I <sub>E</sub> =0			(-)0.1	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(-)0.1	mA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)1A	60		160	
	h <sub>FE</sub> (2)	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)6A	35			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)1A		(10)15		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz		(340)170		pF
Base-to-Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)6A			1.5	V
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)6A, I <sub>B</sub> =(-)0.6A		(-0.3)0.2	(-)2.0	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)5mA, I <sub>E</sub> =0	(-)180			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)50mA, R <sub>BE</sub> =∞	(-)160			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =(-)5mA, I <sub>C</sub> =0	(-)6			V
Turn-On Time	t <sub>on</sub>	See specified test circuit.		(0.45)0.56		μs
Storage Time	t <sub>stg</sub>	See specified test circuit.		(1.75)3.3		μs
Fall Time	t <sub>f</sub>	See specified test circuit.		(0.25)0.4		μs

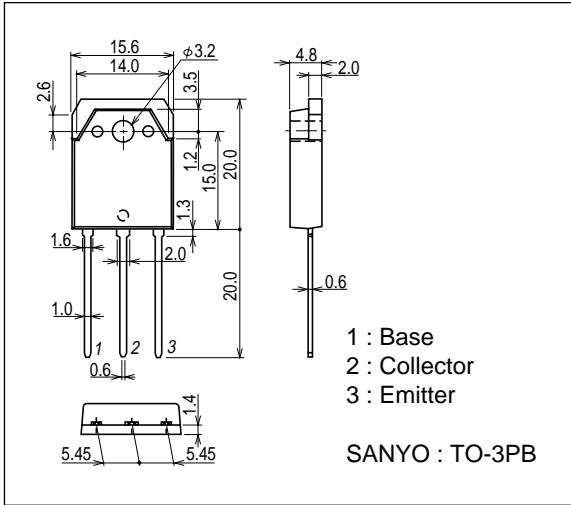
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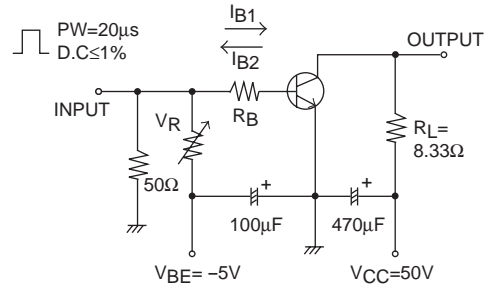
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## Package Dimensions

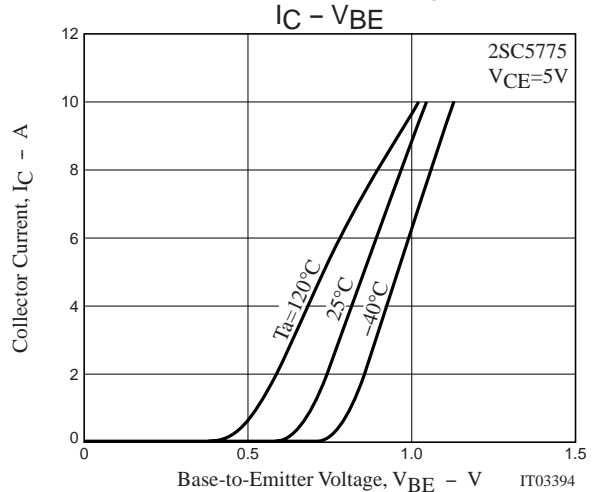
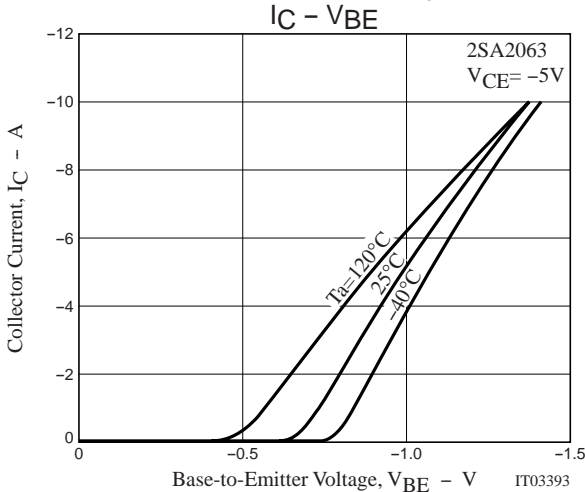
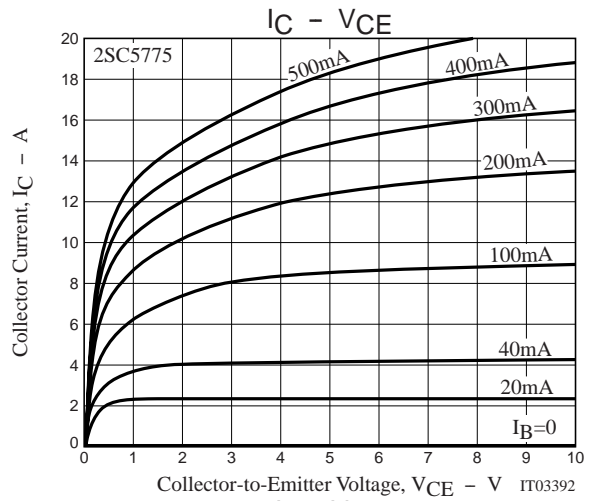
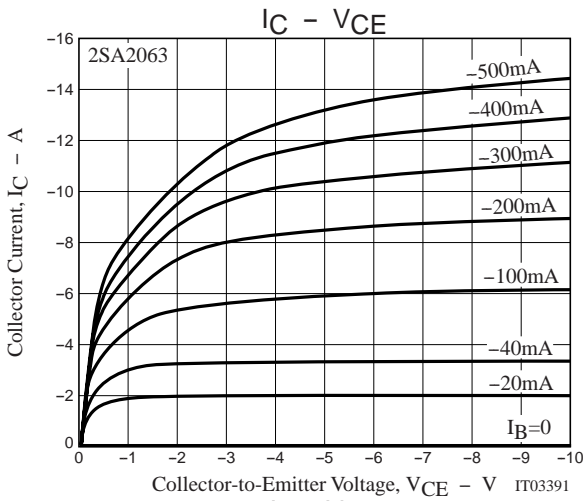
unit : mm  
2022A



## Switching Time Test Circuit



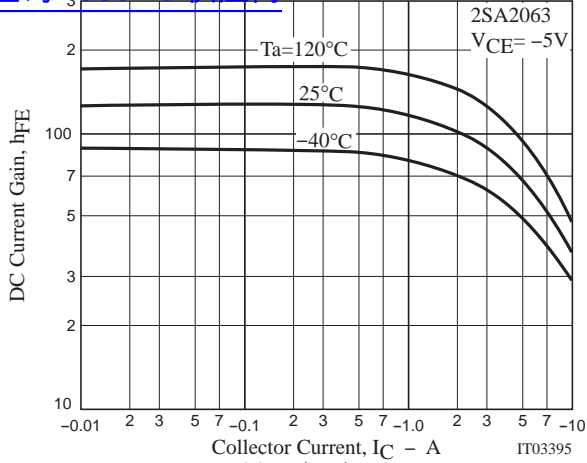
$I_C=10I_{B1}=-10I_{B2}=6A$   
For PNP, the polarity is reversed.



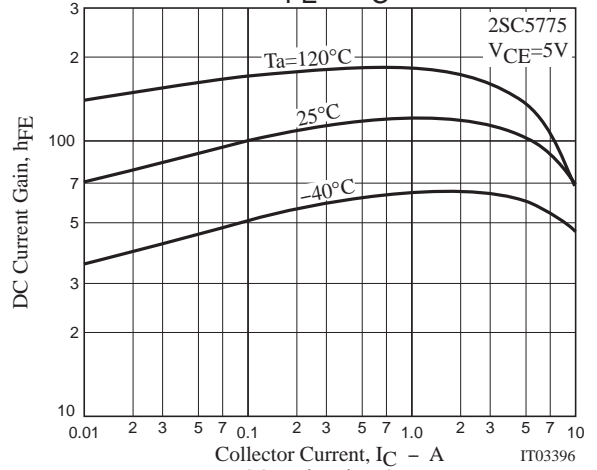
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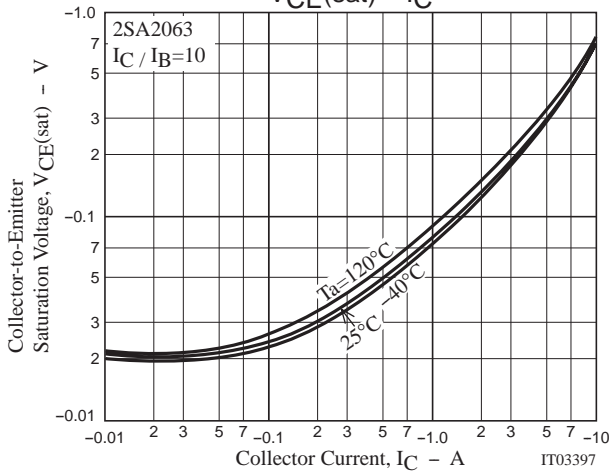
$h_{FE} - I_C$



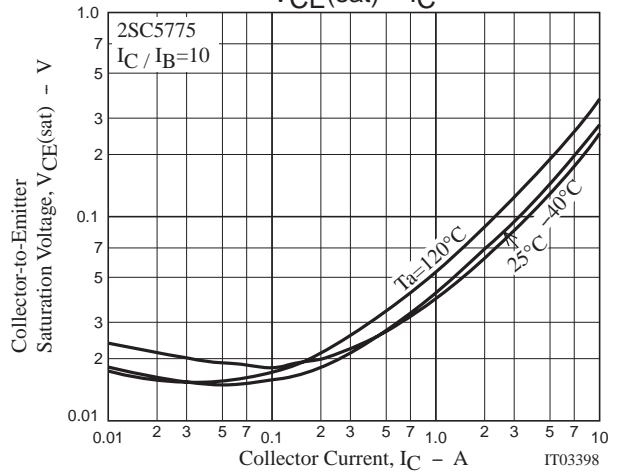
$h_{FE} - I_C$



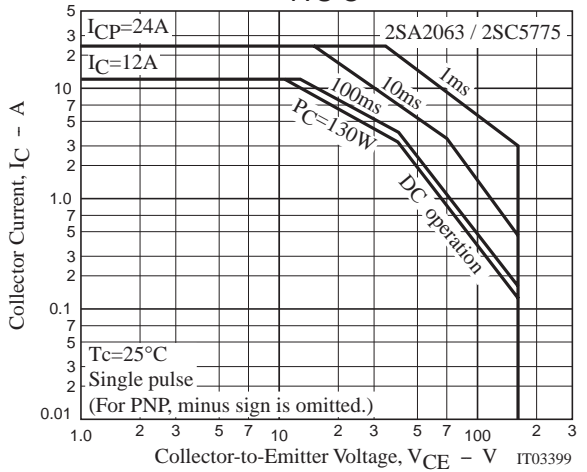
$V_{CE(sat)} - I_C$



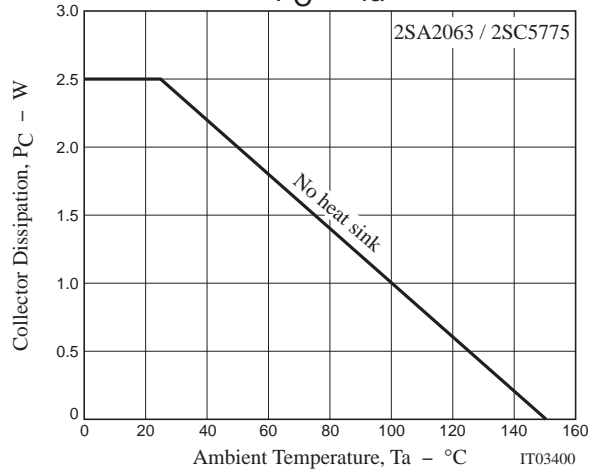
$V_{CE(sat)} - I_C$



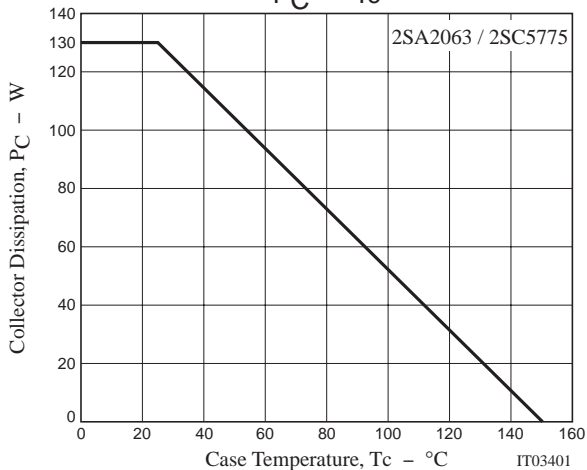
ASO



$P_C - T_a$



$P_C - T_c$



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