

## SOT-89-3L Plastic-Encapsulate Transistors

# D965 800-1000 TRANSISTOR (NPN)

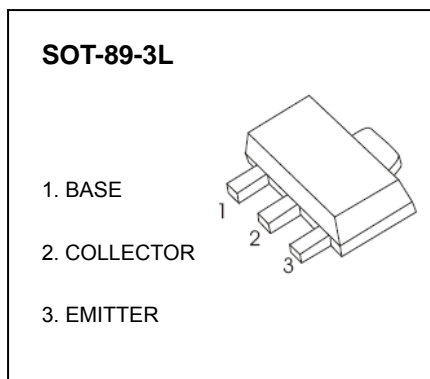
### FEATURES

- Low Collector-Emitter Saturation Voltage
- Large Collector Power Dissipation and Current
- Mini Power Type Package

A5F?B; : 965

### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	40	V
V <sub>CE0</sub>	Collector-Emitter Voltage	20	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current	5	A
P <sub>C</sub>	Collector Power Dissipation	750	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	167	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C



### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

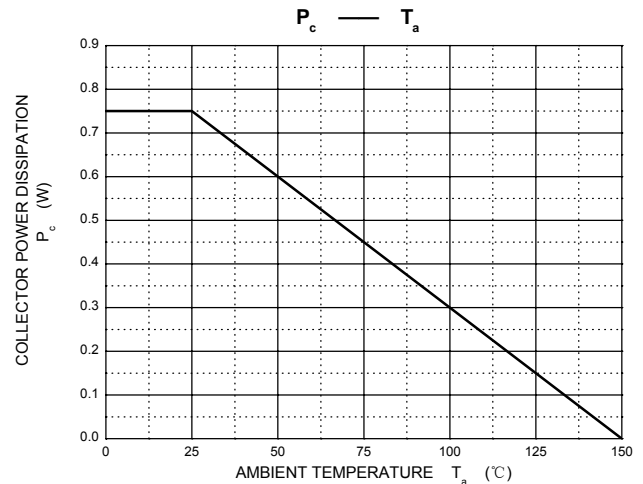
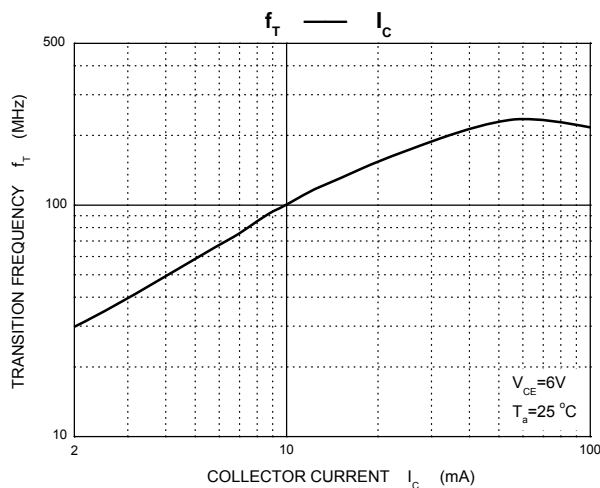
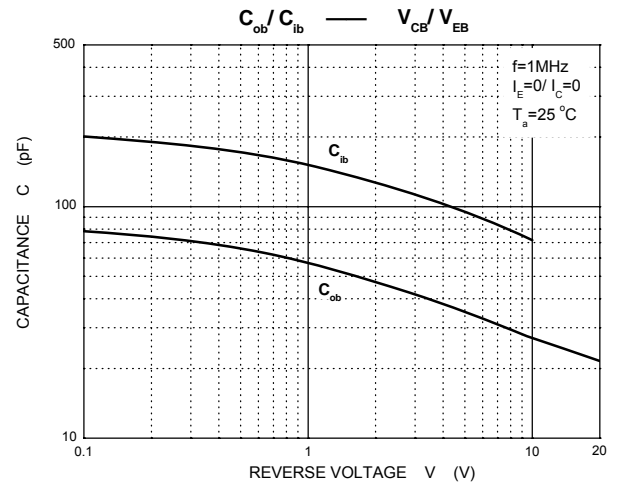
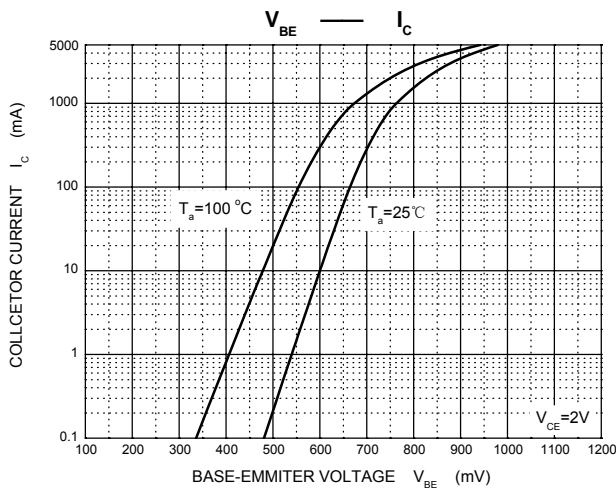
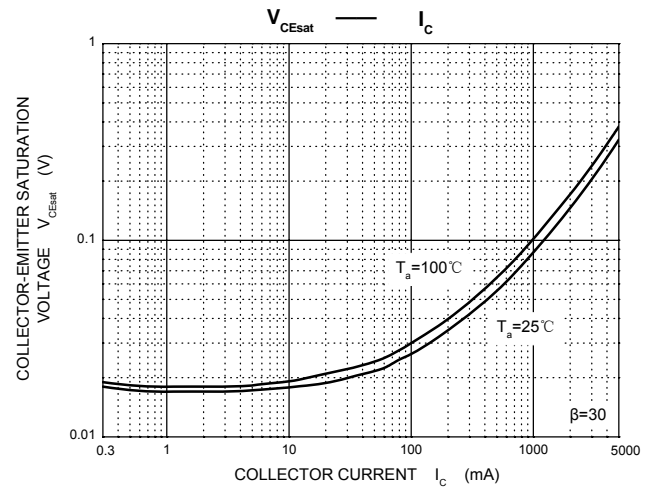
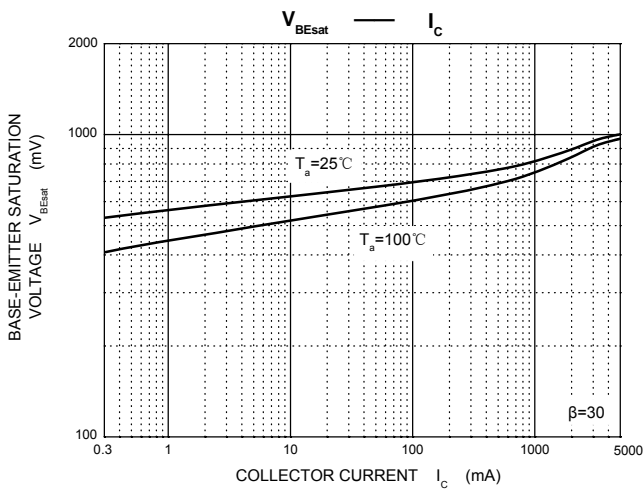
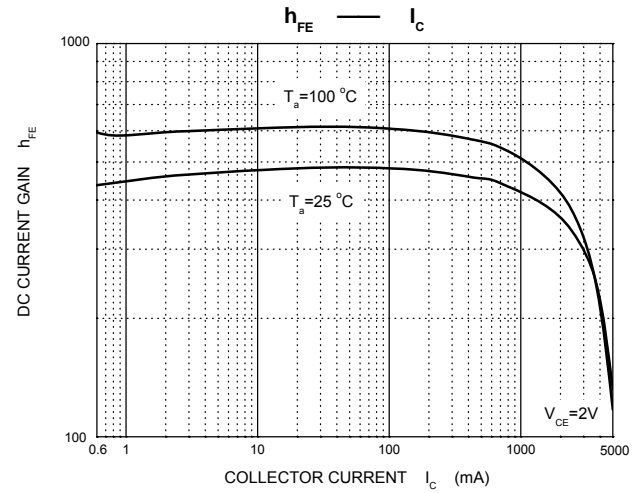
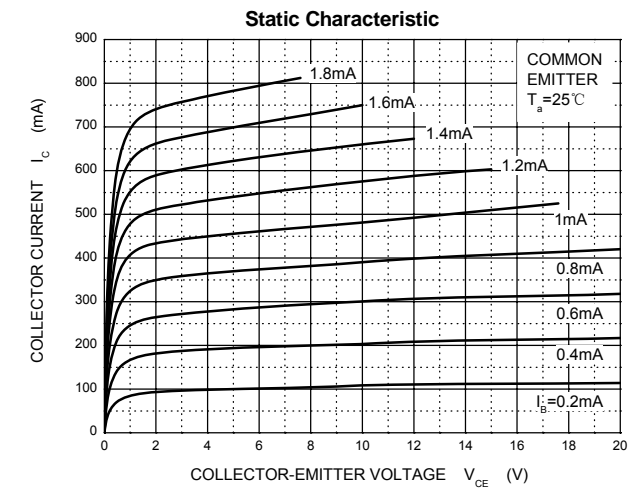
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	40			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	20			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	7			V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =7V, I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =1mA		200		
	h <sub>FE(2)</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =500mA	230		800	
	h <sub>FE(3)</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =2A	150			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =3A, I <sub>B</sub> =0.1A			1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =50mA, f=200MHz		150		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0, f=1MHz			50	pF

### CLASSIFICATION OF h<sub>FE(2)</sub>

RANK			
RANGE	350 - 600	600 - 800	800 - 1000

# Typical Characteristics

# D965



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