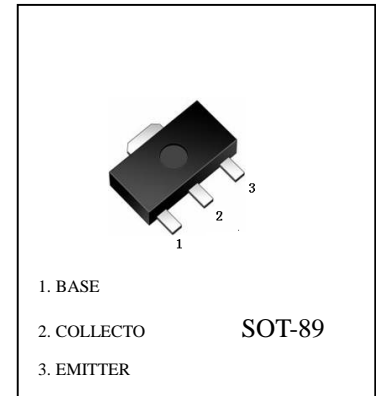


FEATURES

- Collector current up to 5A
- Collector-Emitter voltage up to 20V

Marking: D965

2SD965 (NPN)



Maximum Ratings (Ta=25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	40	V
Collector-Emitter Voltage	V _{CEO}	20	V
Emitter-Base Voltage	V _{EBO}	7	V
Collector Current -Continuous	I _C	3	A
Collector Power dissipation	P _C	0.5	W
Storage Temperature	T _{stg}	-55to +150	°C

ELECTRICAL CHARACTERISTICS (@ Ta=25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{CBO}	I _C =100μA, I _E =0	40			V
Collector-emitter breakdown voltage	V _{CEO}	I _C =1mA, I _B =0	20			V
Emitter-base breakdown voltage	V _{EBO}	I _E =10μA, I _C =0	7			V
Collector cut-off current	I _{CBO}	V _{CB} =10V, I _E =0			0.1	uA
Emitter cut-off current	I _{EBO}	V _{EB} =7V, I _C =0			0.1	uA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C /I _B =3A/0.1A			1	V
DC current gain(note)	h _{FE}	V _{CE} =2V, I _C =1mA		200		
		V _{CE} =2V, I _C =0.5A	230		800	
		V _{CE} =2V, I _C =2A	150			
Current gain bandwidth product	f _T	V _{CE} =6V, I _C =50mA		150		MHz
Output Capacitance	C _{ob}	V _{CB} =20V, f=1MHz, I _E =0A			50	pF

CLASSIFICATION OF h_{FE}

Rank	Q	R	S
Range	230 -380	340-600	560-800

2SD965 Typical Characteristics

Fig.1 Static characteristics

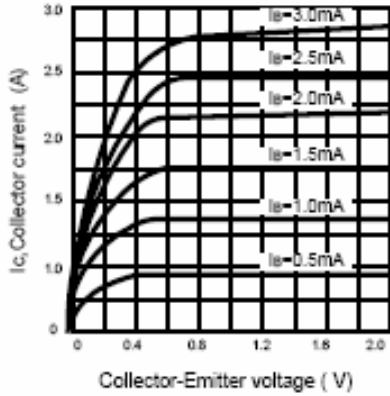


Fig.2 DC current Gain

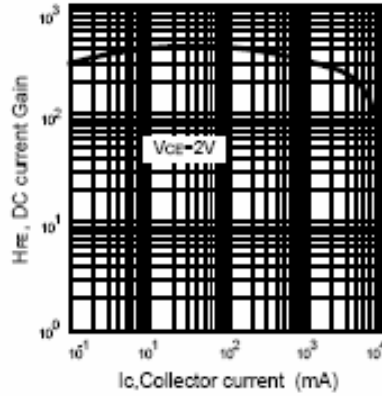


Fig.3 Base-Emitter on Voltage

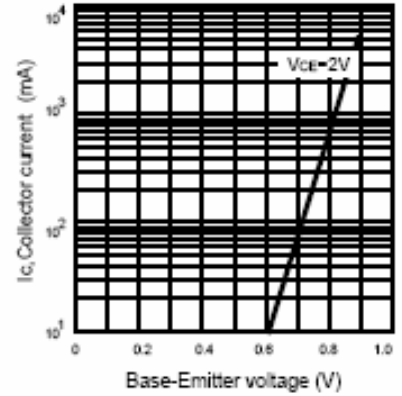


Fig.4 Saturation voltage

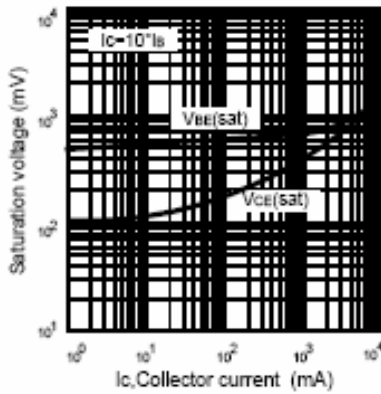


Fig.5 Current gain-bandwidth product

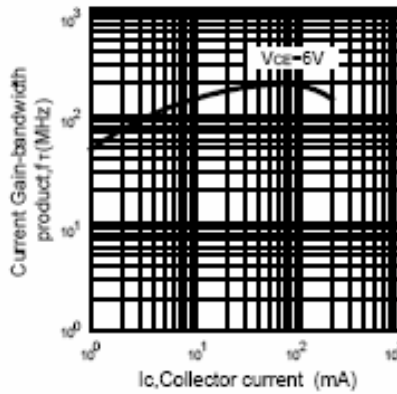
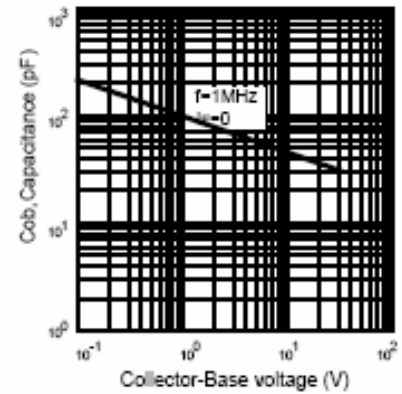


Fig.6 Collector output Capacitance



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