

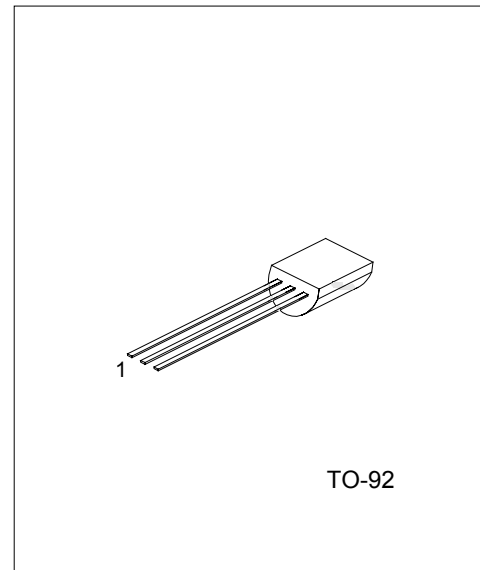
LOW VOLTAGE HIGH CURRENT  
NPN TRANSISTOR

**FEATURES**

- \* Collector current up to 5A
- \* 2SD965B : Collector-Emitter voltage up to 30 V

**APPLICATIONS**

- \* Audio amplifier
- \* Flash unit of camera
- \* Switching circuit



1: EMITTER 2: COLLECTOR 3: BASE

\*Pb-free plating product number: 2SD965BL

**ABSOLUTE MAXIMUM RATINGS**

( Ta=25°C )

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V <sub>CB0</sub>	40	V
Collector-emitter voltage	V <sub>CEO</sub>	30	V
Emitter-base voltage	V <sub>EB0</sub>	7	V
Collector dissipation(Ta=25°C)	P <sub>c</sub>	750	mW
Collector current	I <sub>c</sub>	5	A
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-65 ~ +150	°C

**ELECTRICAL CHARACTERISTICS**

(Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV <sub>CB0</sub>	I <sub>c</sub> =100μA, I <sub>E</sub> =0	40			V
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>c</sub> =1mA, I <sub>B</sub> =0	30			V
Emitter-base breakdown voltage	BV <sub>EB0</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> =30V, I <sub>E</sub> =0			200	nA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> =7V, I <sub>c</sub> =0			200	nA
DC current gain(note)	h <sub>FE</sub> 1 h <sub>FE</sub> 2 h <sub>FE</sub> 3	V <sub>CE</sub> =2V, I <sub>c</sub> =1mA V <sub>CE</sub> =2V, I <sub>c</sub> =0.5A V <sub>CE</sub> =2V, I <sub>c</sub> =2A	230 150	200	800	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =3A, I <sub>B</sub> =0.1A			1	V
Current gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =50mA		150		MHz
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</sub>2**

RANK	Q	R	S
RANGE	230-380	340-600	560-800

TYPICAL CHARACTERISTIC CURVES

Fig.1 Static characteristics

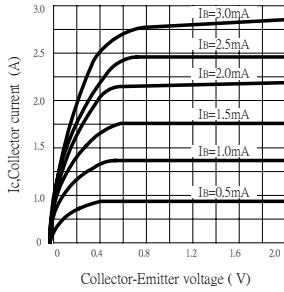


Fig.2 DC current Gain

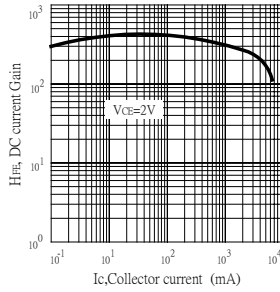


Fig.3 Base-Emitter on Voltage

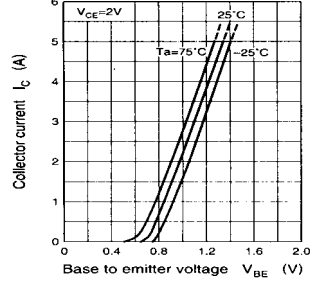


Fig.4 Saturation voltage

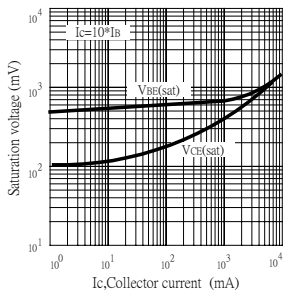


Fig.5 Current gain-bandwidth product

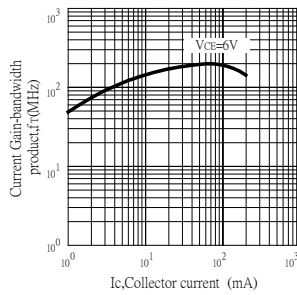
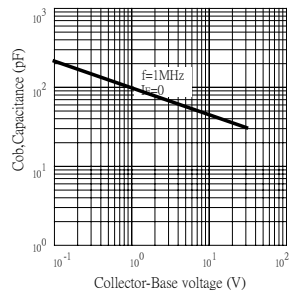


Fig.6 Collector output Capacitance



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