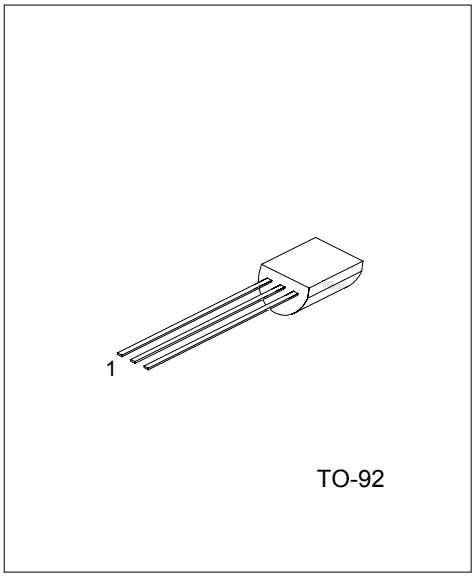
LOW VOLTAGE HIGH CURRENT
NPN TRANSISTOR



TO-92

1: EMITTER 2: COLLECTOR 3: BASE

*Pb-free plating product number: 2SD965BL

FEATURES

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

APPLICATIONS

* Audio amplifier
* Flash unit of camera
* Switching circuit

ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	7	V
Collector dissipation(Ta=25°C)	Pc	750	mW
Collector current	Ic	5	A
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

ELECTRICAL CHARACTERISTICS

(Ta=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV_{CBO}	Ic=100μA,IE=0	40			V
Collector-emitter breakdown voltage	BV_{CEO}	Ic=1mA,IB=0	30			V
Emitter-base breakdown voltage	BV_{EBO}	I_E=10μA,Ic=0	7			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			200	nA
Emitter cut-off current	I_{EBO}	V_{EB}=7V,Ic=0			200	nA
DC current gain(note)	$h_{FE\ 1}$ $h_{FE\ 2}$ $h_{FE\ 3}$	V_{CE}=2V,Ic=1mA V_{CE}=2V,Ic=0.5A V_{CE}=2V,Ic=2A	 230 150	200	 800	
Collector-emitter saturation voltage	V_{CE}(sat)	Ic=3A, IB= 0.1A			1	V
Current gain bandwidth product	f_T	V_{CE}=6V,Ic=50mA		150		MHz
Output capacitance	Cob	V_{CB}=20V,I_E=0, f=1MHz			50	pF

CLASSIFICATION OF hFE2

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

TYPICAL CHARACTERISTIC CURVES

Fig.1 Static characteristics

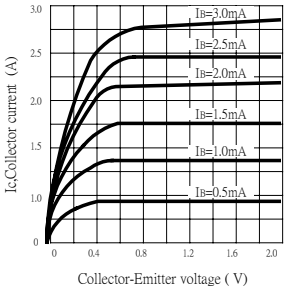


Fig.2 DC current Gain

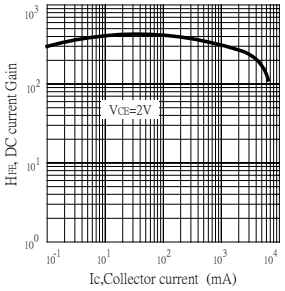


Fig.3 Base-Emitter on Voltage

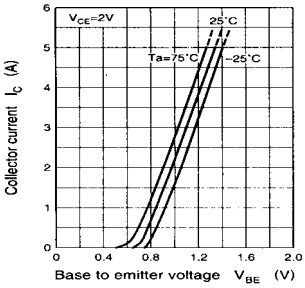


Fig.4 Saturation voltage

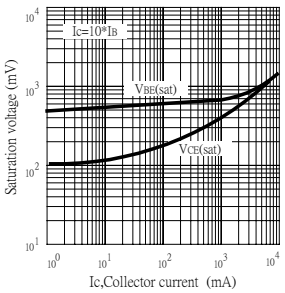


Fig.5 Current gain-bandwidth product

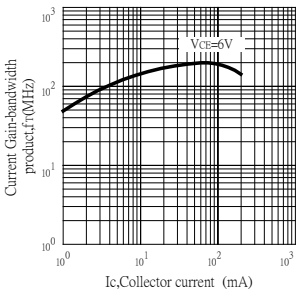


Fig.6 Collector output Capacitance