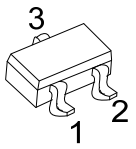
D965SS / D965ASS

NPN EPITAXIAL SILICON TRANSISTOR

LOW VOLTAGE HIGH CURRENT NPN TRANSISTOR



SOT-23
(JEDEC TO-236)

■ FEATURES

* Collector current up to 5A
* D965SS : Collector-Emitter voltage up to 20 V
* D965ASS : Collector-Emitter voltage up to 30 V

■ APPLICATIONS

* Audio amplifier
* Flash unit of camera
* Switching circuit

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
D965SSL-x-AE3-R	D965SSG-x-AE3-R	SOT-23	B	E	C	Tape Reel
D965ASSL-x-AE3-R	D965ASSG-x-AE3-R	SOT-23	B	E	C	Tape Reel

Note: Pin assignment: B: Base E: Emitter C: Collector

D965SSG-x-AE3-R (1) Packing Type (2) Package Type (3) Rank (4) Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of h_{FE2} (4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

D965SS	D965ASS
D65□ → L: Lead Free G: Halogen Free	D65A□ → L: Lead Free G: Halogen Free

■ ABSOLUTE MAXIMUM RATING

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base voltage		V_{CBO}	40	V
Collector-Emitter Voltage	D965SS	V_{CEO}	20	V
	D965ASS		30	
Emitter-Base Voltage		V_{EBO}	7	V
Collector dissipation(Ta=25°C)		Pc	750	mW
Collector current		I_C	5	A
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage		BV_{CBO}	I_C=100μA, I_E=0	40			V
Collector-emitter breakdown voltage	D965SS	BV_{CEO}	I_C=1mA, I_B=0	20			V
	D965ASS			30			V
Emitter-base breakdown voltage		BV_{EBO}	I_C =0, I_E=10μA	7			V
Collector cut-off current		I_{CBO}	V_{CB}=10V, I_E=0			100	nA
Emitter cut-off current		I_{EBO}	V_{EB}=7V, I_C=0			100	nA
DC current gain		h_{FE1}	V_{CE}=2V, I_C=1mA		200		
		h_{FE2}	V_{CE}=2V, I_C=0.5A	230		800	
		h_{FE3}	V_{CE}=2V, I_C=2A	150			
Collector-emitter saturation voltage		$V_{CE(SAT)}$	Ic=3A, IB= 0.1A			1	V
Current gain bandwidth product		f_T	V_{CE}=6V,I_C=50mA		150		MHz
Output capacitance		Cob	V_{CB}=20V,I_E=0, f=1MHz			50	pF

■ CLASSIFICATION OF h_{FE2}

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

■ TYPICAL CHARACTERISTICS

Fig.1 Static characteristics

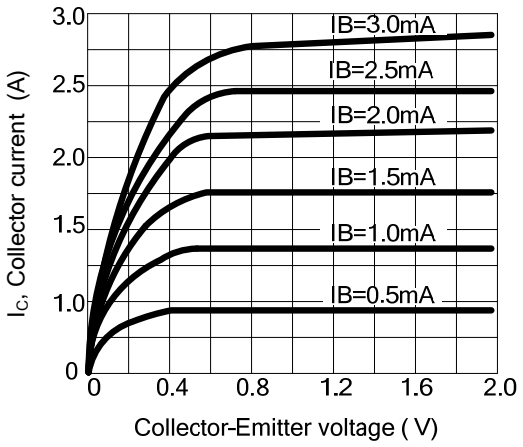


Fig.2 DC current Gain

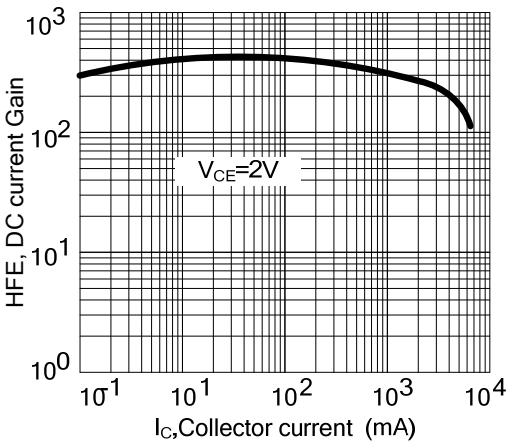


Fig.3 Base-Emitter on Voltage

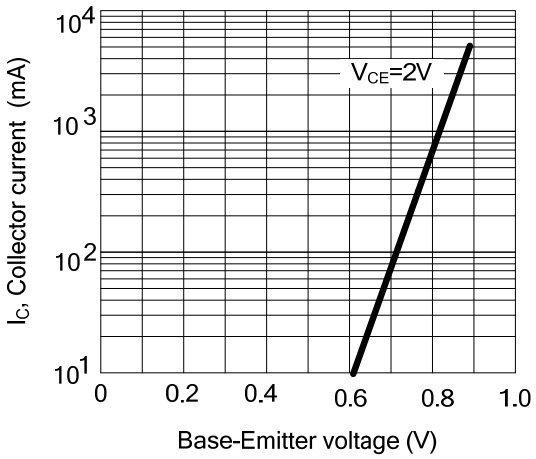


Fig.4 Saturation voltage

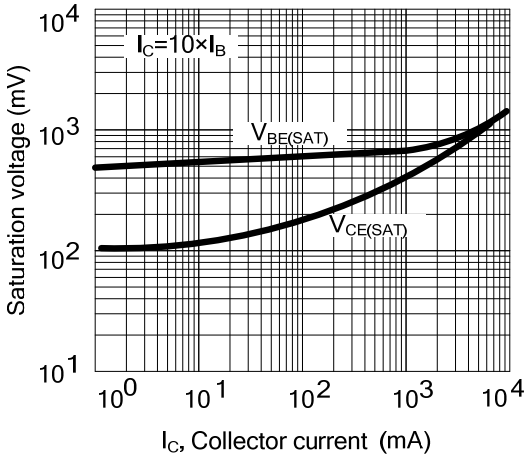


Fig.5 Current gain-bandwidth product

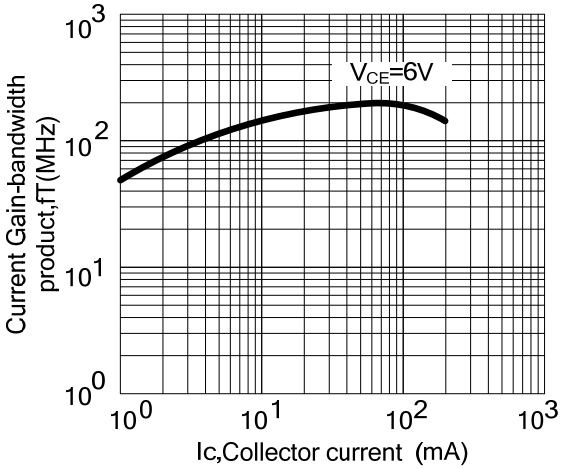


Fig.6 Collector output Capacitance