Silicon NPN Power Transistors 2SD1985 2SD1985A

DESCRIPTION

·With TO-220Fa package
·High forward current transfer ratio h_{FE} which has satisfactory linearity
·Low collector saturation voltage
·Complement to type 2SB1393 /1393A

APPLICATIONS

·For power amplification

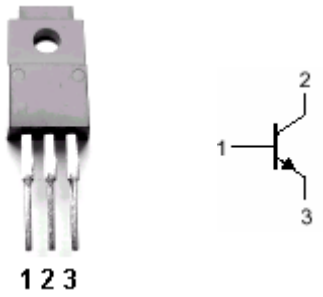

Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SD1985	Open emitter	60	V
		2SD1985A		80	
V_{CEO}	Collector-emitter voltage	2SD1985	Open base	60	V
		2SD1985A		80	
V_{EBO}	Emitter-base voltage		Open collector	6	V
I_C	Collector current (DC)			3	A
I_{CM}	Collector current-peak			5	A
P_C	Collector power dissipation		T_C=25□	25	W
			T_a=25□	2	
T_j	Junction temperature			150	□
T_{stg}	Storage temperature			-55~150	□

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V_{CEO}	Collector-emitter breakdown voltage	2SD1985	I_C=30mA , I_B=0	60			V
		2SD1985A		80			
V_{CEsat}	Collector-emitter saturation voltage		I_C=3A;I_B=0.375A			1.2	V
V_{BE}	Base-emitter voltage		V_{CE}=4V;I_C=3A			1.8	V
I_{CES}	Collector cut-off current	2SD1985	V_{CE}=60V;I_B=0			200	μA
		2SD1985A	V_{CE}=80V;I_B=0				
I_{CEO}	Collector cut-off current	2SD1985	V_{CE}=30V;I_B=0			300	μA
		2SD1985A	V_{CE}=60V;I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=6V; I_C=0			1	mA
h_{FE-1}	DC current gain		I_C=1A ; V_{CE}=4V	70		250	
h_{FE-2}	DC current gain		I_C=3A ; V_{CE}=4V	10			
f_T	Transition frequency		I_C=0.5A; V_{CE}=5V;f=10MHz		30		MHz
Switching times							
t_{on}	Turn-on time		I_C=1A ;I_{B1}=0.1A I_{B2}=-0.1A;V_{CC}=50V		0.5		μs
t_s	Storage time				2.5		μs
t_f	Fall time				0.4		μs

◆ **h_{FE-1} Classifications**

Q	P
70-150	120-250

PACKAGE OUTLINE

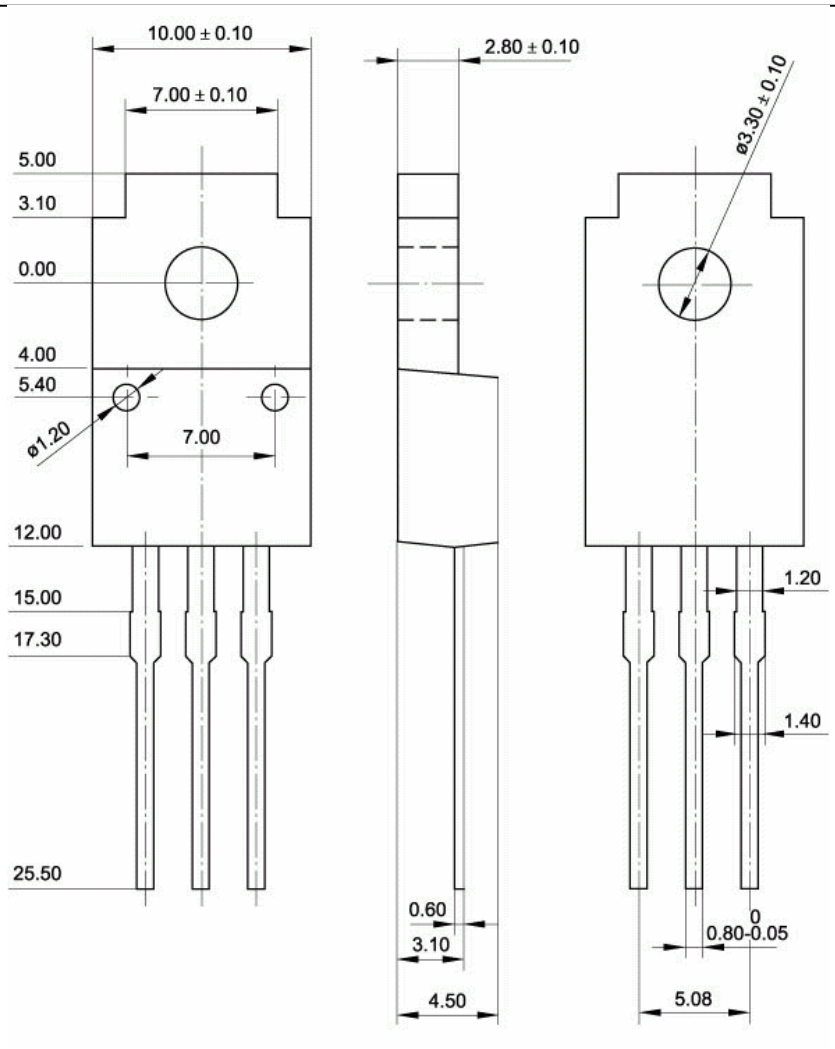

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

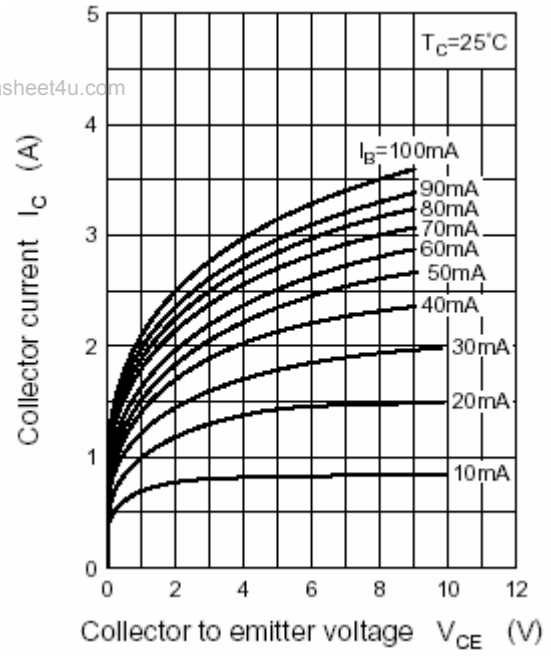

Fig.3 Static Characteristic

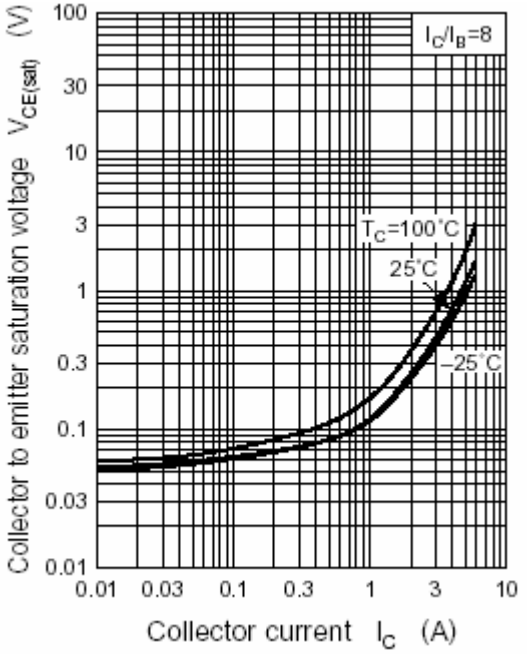

Fig.4 Collector-Emitter Saturation Voltage

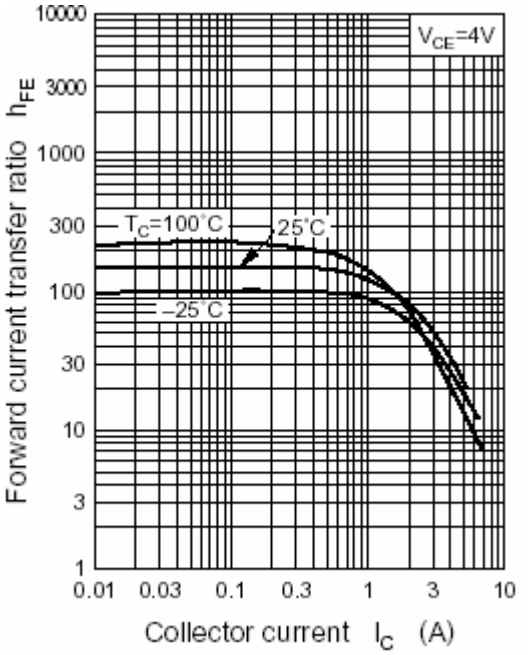

Fig.5 DC current Gain

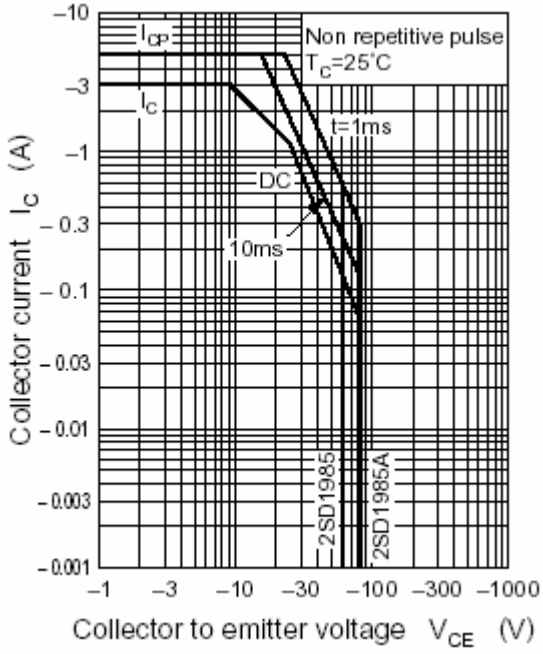

Fig.6 Safe Operating Area