Silicon NPN Power Transistors 2SD1046

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DESCRIPTION

·With TO-3PN package
·Complement to type 2SB816
·Wide area of safe operation

APPLICATIONS

·For LF power amplifier, 50W output large power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

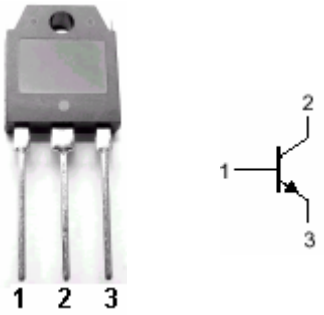

Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Tc=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	120	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		8	A
I_{CM}	Collector current -peak		12	A
P_C	Collector power dissipation	T_C=25□	80	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-40~150	□

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=50mA ;R_{BE}=∞	120			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=5mA ;I_E=0	150			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=5mA ;I_C=0	6			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=5A ;I_B=0.5A		1.0	2.0	V
V_{BE}	Base-emitter on voltage	I_C=1A;V_{CE}=5V			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=80V I_E=0			0.1	mA
I_{EBO}	Emitter cut-off current	V_{EB}=4V; I_C=0			0.1	mA
h_{FE-1}	DC current gain	I_C=1A ; V_{CE}=5V	60		200	
h_{FE-2}	DC current gain	I_C=5A ; V_{CE}=5V	20			
f_T	Transition frequency	I_C=1A ; V_{CE}=5V		15		MHz
C_{OB}	Collector output capacitance	f=1MHz;V_{CB}=10V		160		pF
Switching times						
t_{on}	Turn-on time	I_C=1.0A; I_{B1}=-I_{B2}=0.1A V_{CC}=20V;R_L=20Ω		0.22		μs
t_{stg}	Storage time			6.66		μs
t_f	Fall time			1.02		μs

◆ **h_{FE-1} Classifications**

D	E
60-120	100-200

PACKAGE OUTLINE

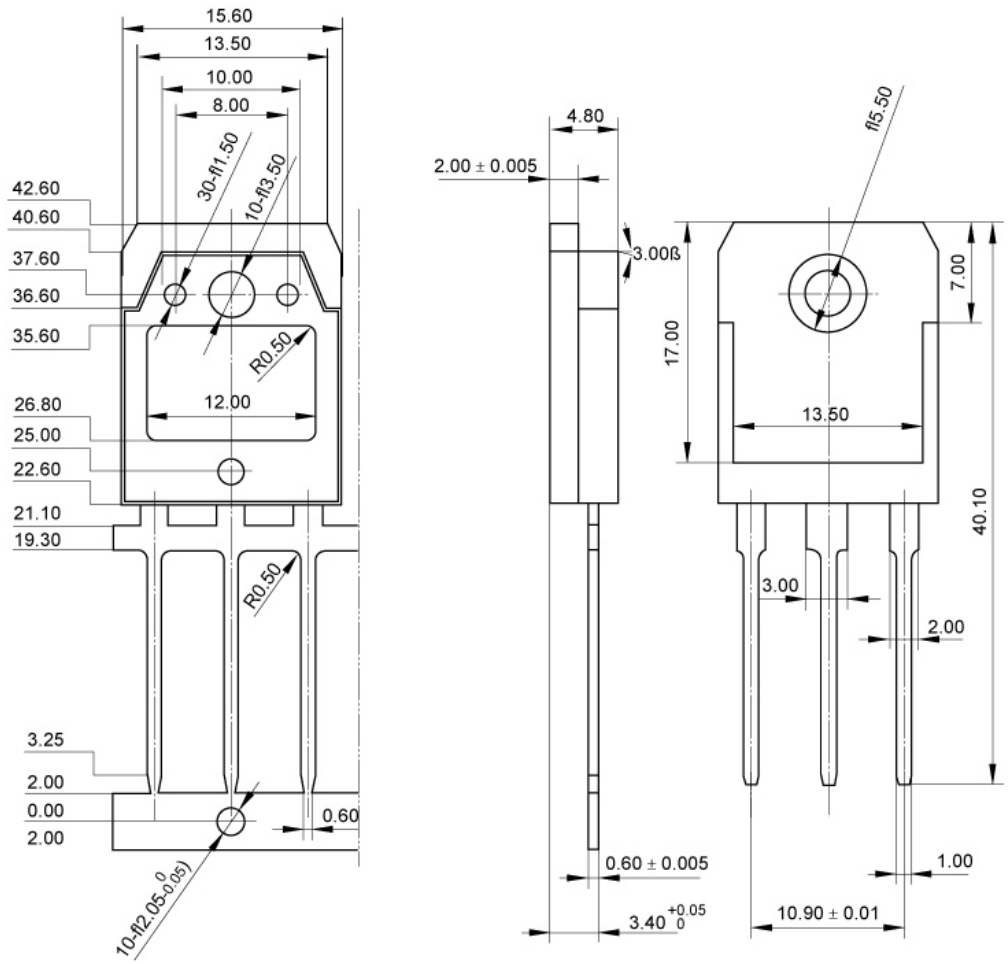

Fig.2 outline dimensions

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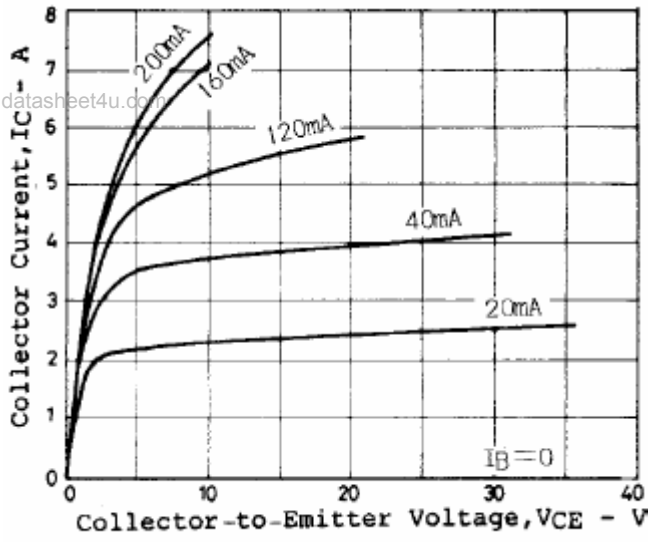

Fig.3 Static Characteristic

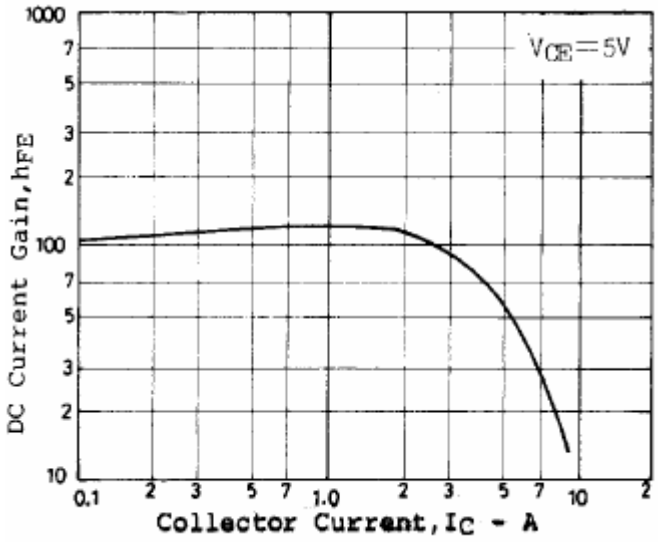

Fig.4 DC current Gain

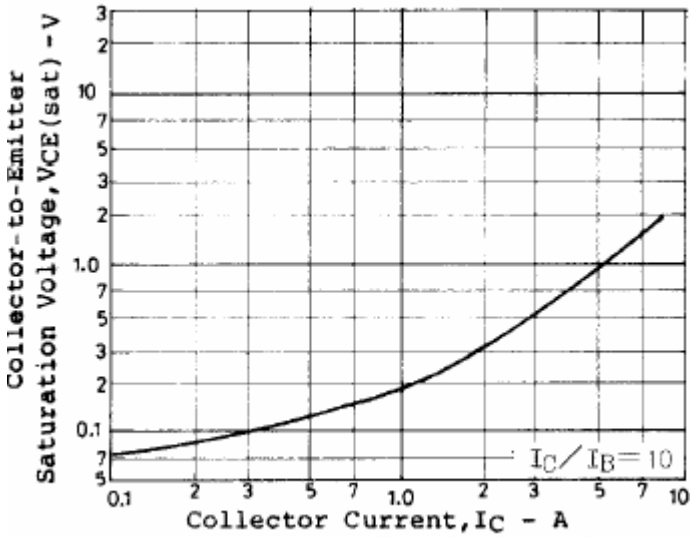

Fig.5 Collector-Emitter Saturation Voltage

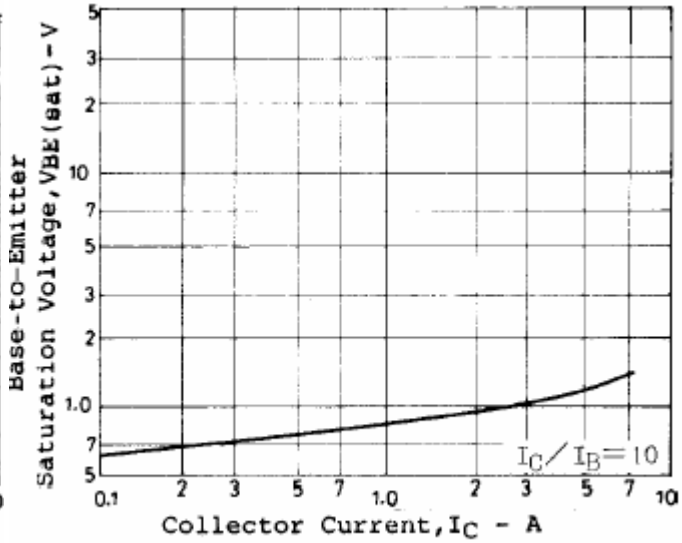

Fig.6 Base-Emitter Saturation Voltage

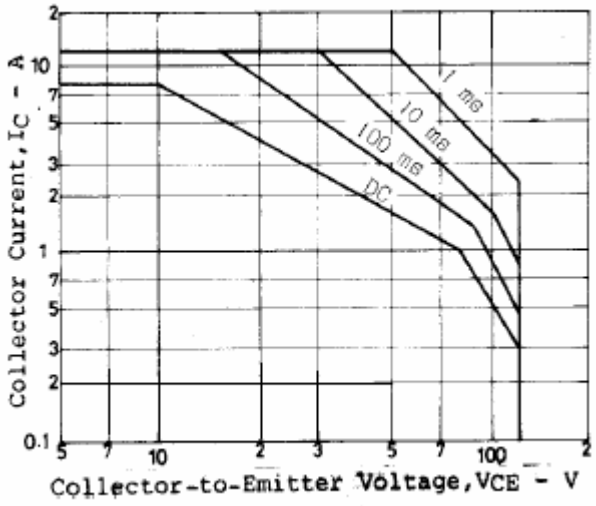

Fig.7 Safe Operating Area