

Silicon NPN Power Transistors

2SD1406

DESCRIPTION

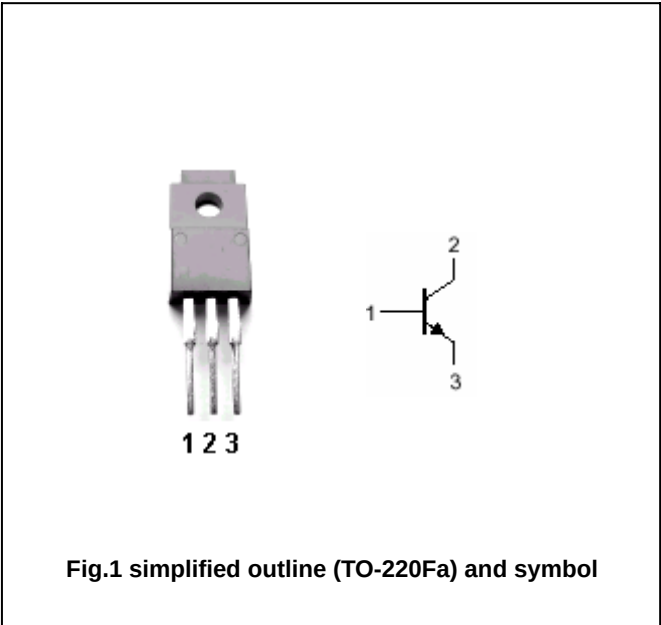
- With TO-220Fa package
- Collector power dissipation
:P_C=25W@T_C=25℃
- Low collector saturation voltage
- Complement to type 2SB1015

APPLICATIONS

- For audio frequency power amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(T_a=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	60	V
V _{CEO}	Collector -emitter voltage	Open base	60	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		3	A
I _B	Base current		0.5	A
P _C	Collector power dissipation	T _a =25℃	2.0	W
		T _C =25℃	25	
T _j	Junction temperature		150	℃
T _{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=50mA$; $I_B=0$	60			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=3A$; $I_B=0.3A$		0.25	1.0	V
V_{BE}	Base-emitter voltage	$I_C=0.5A$; $V_{CE}=5V$		0.7	1.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=60V$; $I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V$; $I_C=0$			100	μA
h_{FE-1}	DC current gain	$I_C=0.5A$; $V_{CE}=5V$	60		300	
h_{FE-2}	DC current gain	$I_C=3A$; $V_{CE}=5V$	20			
f_T	Transition frequency	$I_C=0.5A$; $V_{CE}=5V$		3		MHz
C_{OB}	Collector output capacitance	$I_E=0$; $f=1MHz$; $V_{CB}=10V$		70		pF

Switching times

t_{on}	Trun-on time	$R_L=15\Omega$; $V_{CC}=30V$ $I_{B1}=-I_{B2}=0.2A$		0.8		μs
t_s	Storage time			1.5		μs
t_f	Fall time			0.8		μs

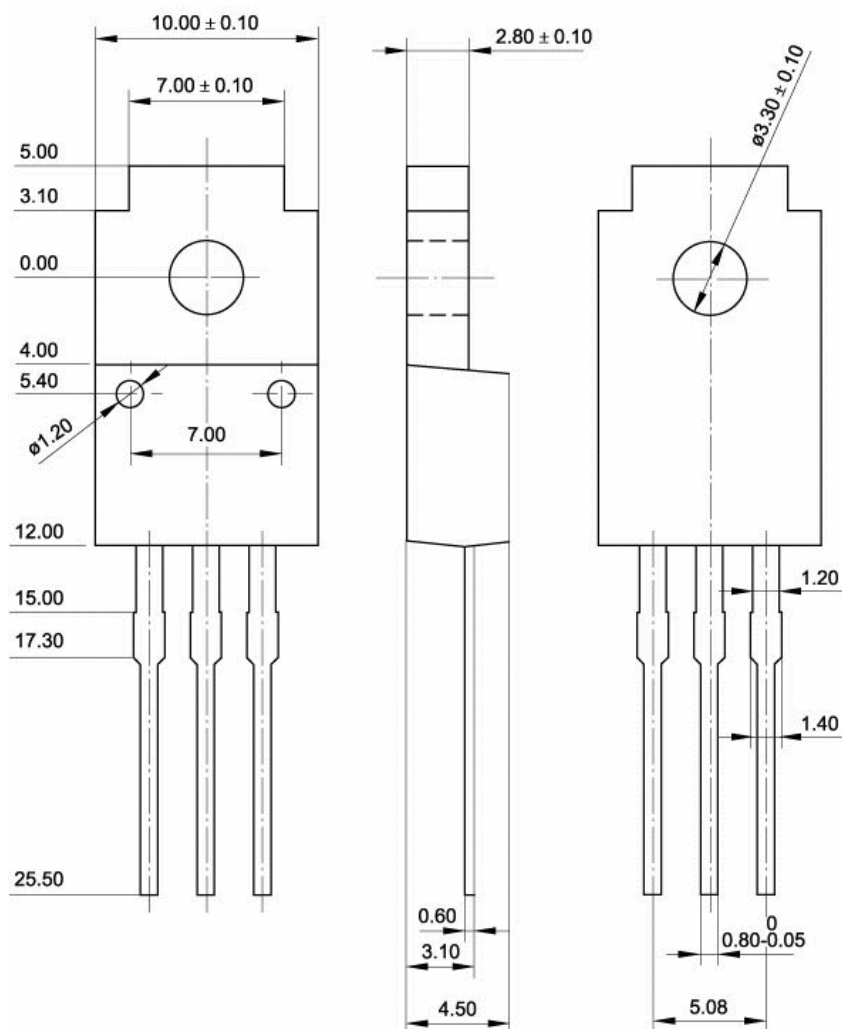
◆ h_{FE-1} Classifications

O	Y	GR
60-120	100-200	150-300

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PACKAGE OUTLINE

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

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