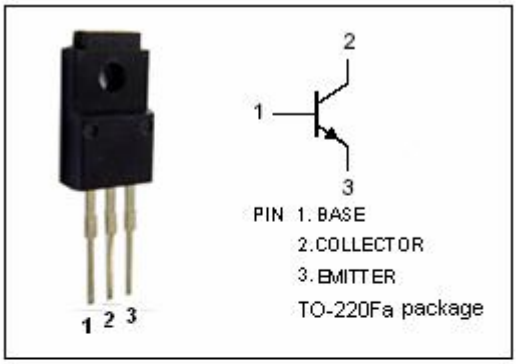
isc Silicon NPN Power Transistor — 2SD1405

DESCRIPTION

- High DC Current Gain
  : h_{FE}= 200(Min) @I_C= 0.5A
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= 1.0V(Max.)@ I_C= 1A
- Collector Power Dissipation of 25W@ T_C=25℃
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

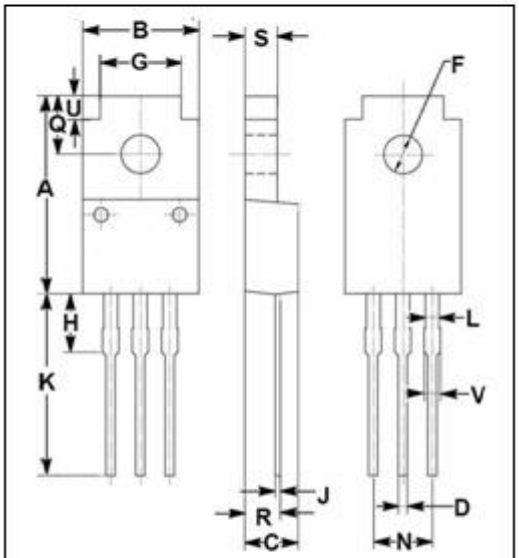


APPLICATIONS

- Designed for audio frequency power amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ T_C=25℃	25	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	3.80	4.20
J	0.45	0.75
K	13.35	13.80
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 50mA; I_B= 0	50			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 1A; I_B= 0.02A			1.0	V
$V_{BE(on)}$	Base -Emitter On Voltage	I_C= 0.5A ; V_{CE}= 5V			1.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 50V; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			100	μA
h_{FE}	DC Current Gain	I_C= 0.5A; V_{CE}= 5V	200		1200	
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}=1MHz		70		pF
f_T	Current-Gain—Bandwidth Product	I_E= -0.5A; V_{CE}= 5V		5		MHz
Switching times						
t_{on}	Turn-on Time	I_{B1}=10mA: I_{B2}= 20mA,V_{CC}= 10V		2.0		μs
t_{stg}	Storage Time			5.0		μs
t_f	Fall Time			3.0		μs

h_{FE} Classifications

GR	BL	V
200-400	350-700	600-1200