

isc Silicon NPN Power Transistor

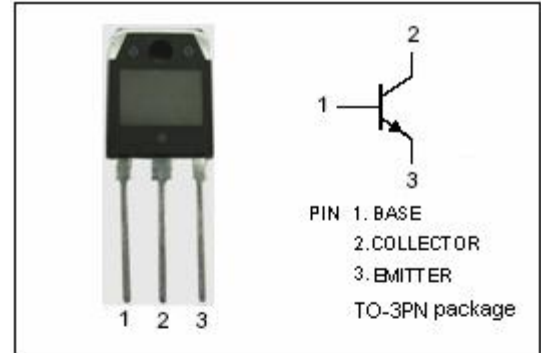
2SD847

DESCRIPTION

- Good Linearity of h_{FE}
- High Collector Current
- Wide Area of Safe Operation
- High Reliability
- Complement to Type 2SB757

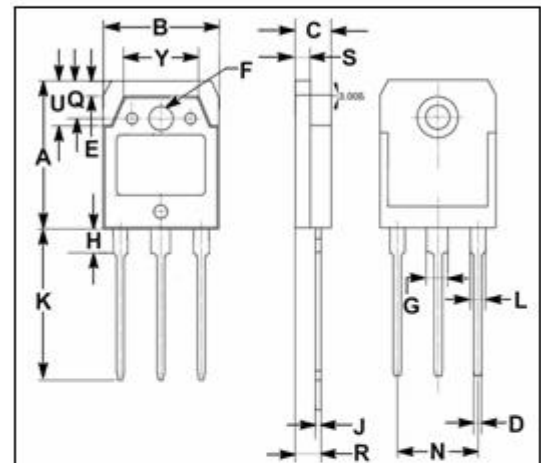
APPLICATIONS

- Audio amplifier applications
- Series regulators applications
- General purpose power amplifiers



ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base voltage	5	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current-Continuous	5	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	80	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^{\circ}C/W$

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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	40			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_E=0$	40			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=0.1\text{mA}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			1.8	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0$			0.01	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			0.1	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=2\text{V}$	40		240	

Switching times

t_{on}	Turn-on Time	$I_C=15\text{A}, I_{B1}=-I_{B2}=1.5\text{A}$ $R_L=2\Omega; P_W=20\mu\text{s}$ Duty Cycle $\leq 2\%$			1.0	μs
t_{stg}	Storage Time				2.0	μs
t_f	Fall Time				1.0	μs