

Silicon NPN Power Transistors

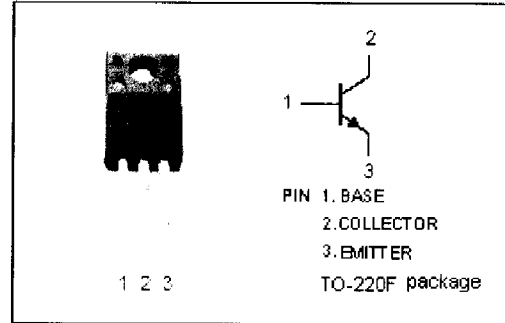
2SC4833

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
 : $V_{CEO(SUS)} = 400V(\text{Min})$
- Fast Switching Speed
- Low Saturation Voltage

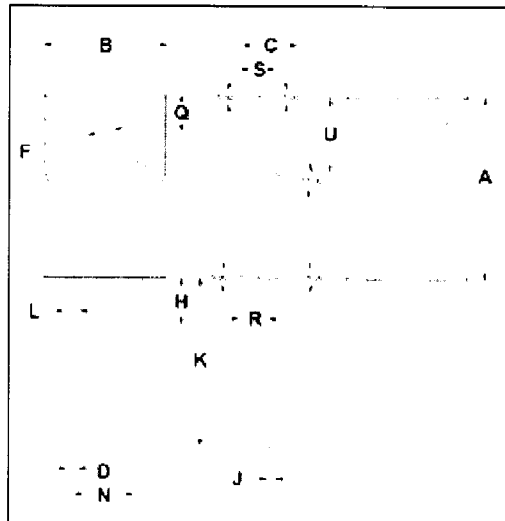
APPLICATIONS

- Switching regulators
- General purpose power amplifiers



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	4	A
P_T	Total Power Dissipation @ $T_c=25^\circ\text{C}$	35	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

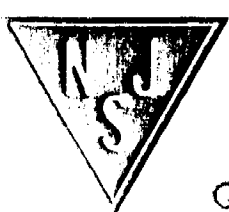


DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{th-j-c}	Thermal Resistance, Junction to Case	3.57	$^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{CEO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{EBO}	Emitter Cutoff Current	At rated Voltage			100	μA
h_{FE-1}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=2\text{V}$	10		25	
h_{FE-2}	DC Current Gain	$I_C=1\text{mA}; V_{CE}=2\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$		13		MHz

Switching times

t_{on}	Turn-on Time	$I_C=2.5\text{A}; I_{B1}=0.5\text{A}; I_{B2}=-1\text{A}$ $R_L=60\Omega; V_{BB2}=4\text{V}$			0.3	μs
t_{stg}	Storage Time				1.3	μs
t_f	Fall Time				0.1	μs