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Silicon NPN Power Transistors

2SC4981

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 80V(\text{Min})$
- Collector Current- $I_C = 7A(\text{Max.})$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.3V(\text{Max.}) @ I_C = 3.5A$

APPLICATIONS

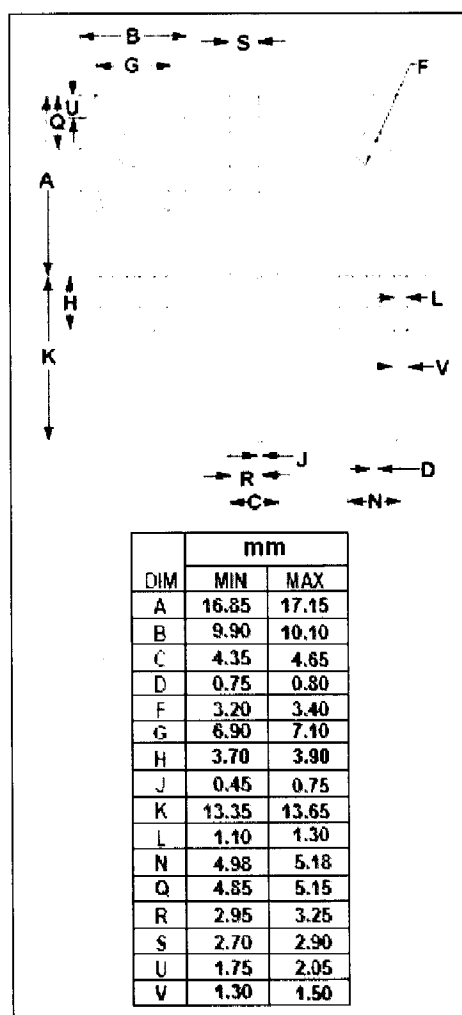
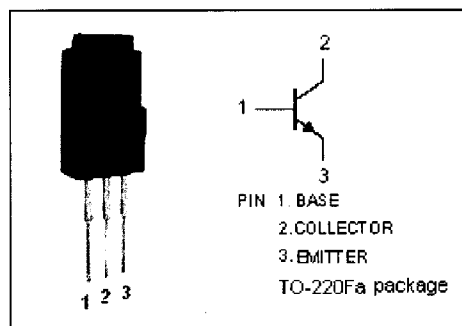
- Designed for use in drivers such as DC/DC converters and actuators.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	1.5	A
I_{BM}	Base Current-Peak	2	A
P_T	Total Power Dissipation @ $T_c=25^\circ\text{C}$	25	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	5	$^\circ\text{C/W}$



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Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3.5\text{A}; I_B=0.2\text{A}$			0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3.5\text{A}; I_B=0.2\text{A}$			1.2	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}	DC Current Gain	$I_C=3.5\text{A}; V_{CE}=2\text{V}$	70			
f_T	Current-Gain—Bandwidth Product	$I_C=0.7\text{A}; V_{CE}=10\text{V}$		50		MHz

Switching times

t_{on}	Turn-on Time	$I_C=3.5\text{A}; I_{B1}=0.35\text{A}; I_{B2}=-0.35\text{A};$ $R_L=8\Omega; V_{BB2}=4\text{V}$			0.3	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.2	μs