

**isc Silicon NPN Power Transistors**
**2SC4981**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 80V(\text{Min})$
- Low Collector Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

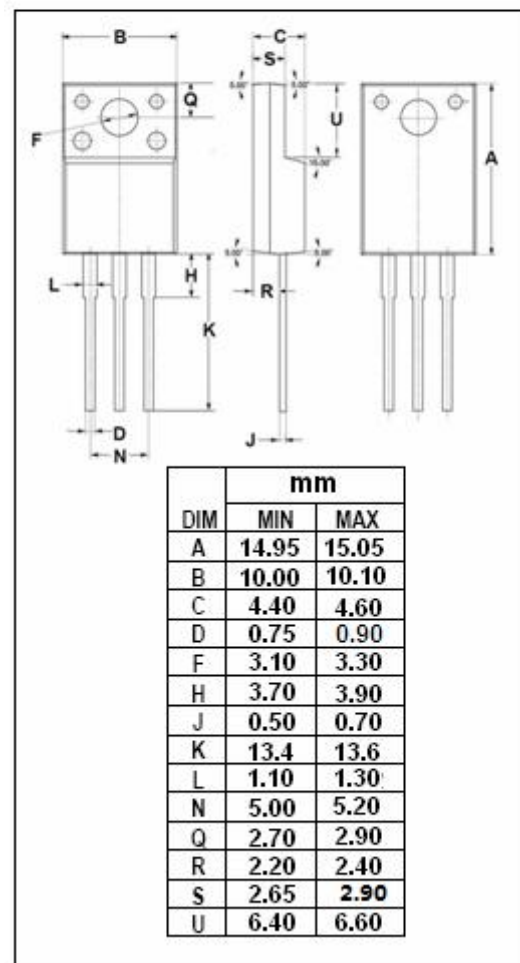
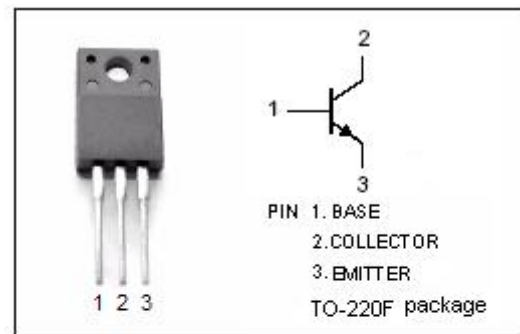
- Designed for use in drivers such as DC/DC converters and actuators.

**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	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistors****2SC4981****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	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff Current	At rated Voltage			100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	At rated Voltage			100	$\mu\text{A}$
$h_{FE}$	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	$\mu\text{s}$
$t_{stg}$	Storage Time				1.5	$\mu\text{s}$
$t_f$	Fall Time				0.2	$\mu\text{s}$

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