

isc Silicon NPN Power Transistor

2SC4977

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$
- Fast Switching Speed
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.8V(\text{Max.}) @ I_C = 4.0A$

APPLICATIONS

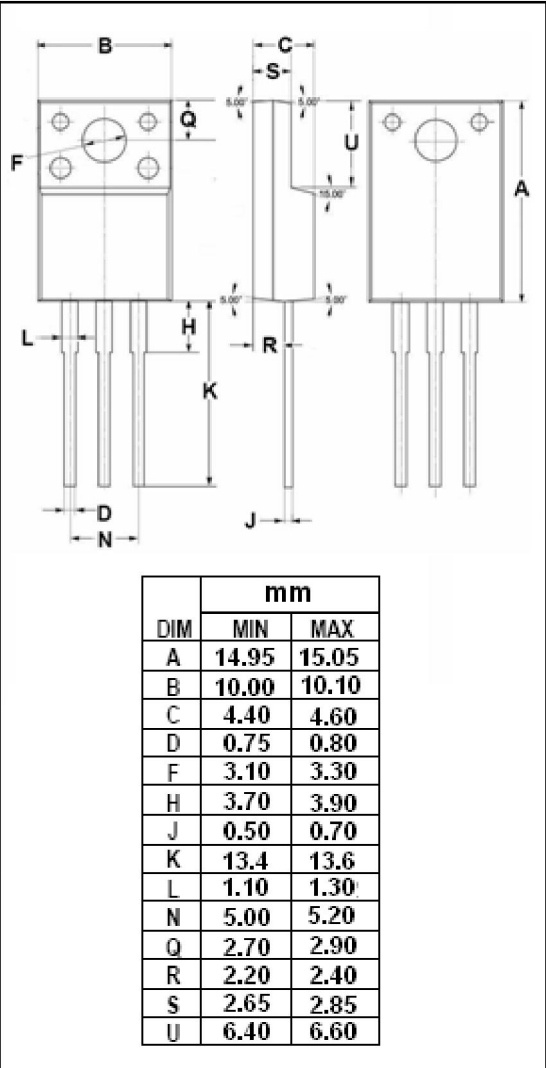
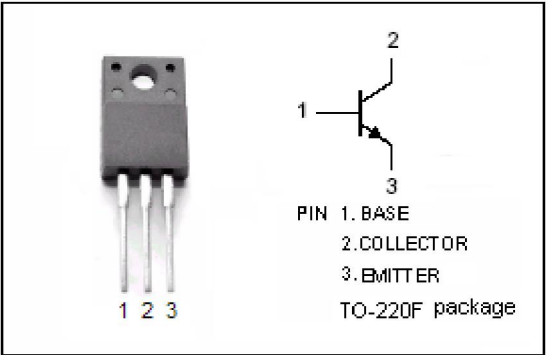
- Designed for use in high-voltage, high-speed, power switching in inductive circuit, they are particularly suited for 115 and 220V switchmode applications such as switching regulator's, inverters, DC-DC converter.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	40	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.125	$^{\circ}C/W$



isc Silicon NPN Power Transistor**2SC4977****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 0.1A; I _B = 0	400			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	450			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	8			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.8A			0.8	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 0.8A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 450V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 8V; I _C = 0			100	μ A
h _{FE}	DC Current Gain	I _C = 4A ; V _{CE} = 5V	10			

Switching times

t _{on}	Turn-on Time	I _C = 5A , I _{B1} = -I _{B2} =1A R _L = 30 Ω ; V _{CC} = 150V			1.0	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				0.5	μ s