

isc Silicon NPN Power Transistor

2SC4153

DESCRIPTION

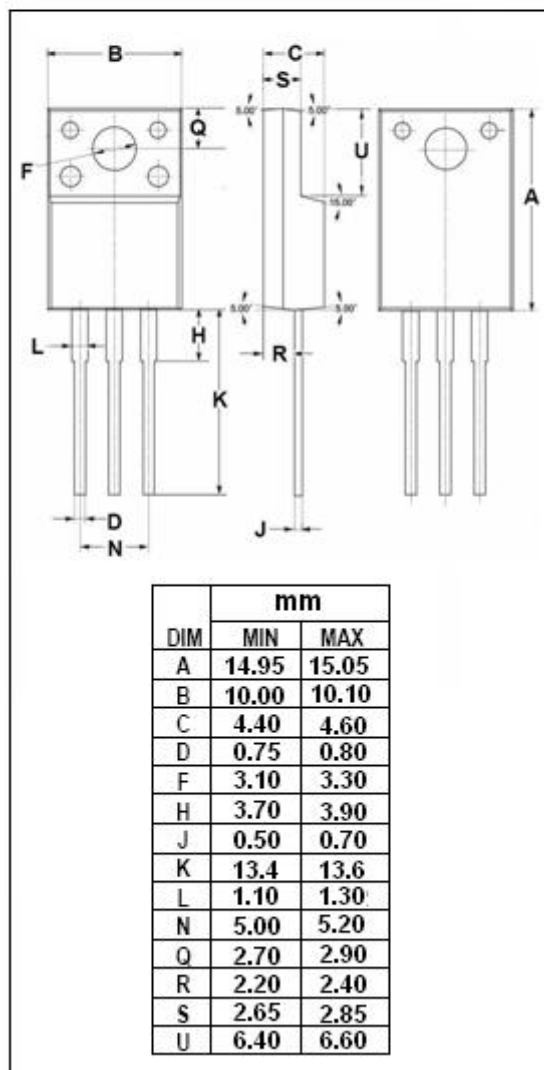
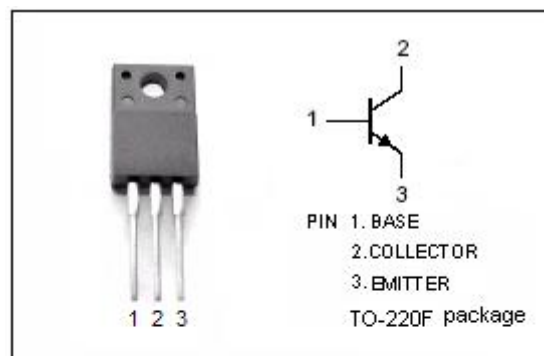
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.5V(\text{Max}) @ I_C = 3A$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 120V (\text{Min})$
- Good Linearity of h_{FE}
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in humidifier , DC/DC converter and general purpose applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Pulse	14	A
I_B	Base Current-Continuous	3	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 50mA ; I _B = 0	120			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 0.3A			0.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 0.3A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 200V; 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 = 3A ; V _{CE} = 4V	70		220	
f _T	Current-Gain—Bandwidth Product	I _E = -0.5A ; V _{CE} = 12V		30		MHz
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V; f _{test} = 1.0MHz		110		pF

Switching times

t _{on}	Turn-on Time	I _C = 3A ; I _{B1} =0.3A; I _{B2} = -0.6A R _L = 16.7 Ω ; V _{CC} = 50V			0.5	μ s
t _{stg}	Storage Time				3.0	μ s
t _f	Fall Time				0.5	μ s

◆ h_{FE} Classifications

O	Y	G
70-120	100-200	160-220

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