

isc Silicon NPN Power Transistor
2SC4371
DESCRIPTION

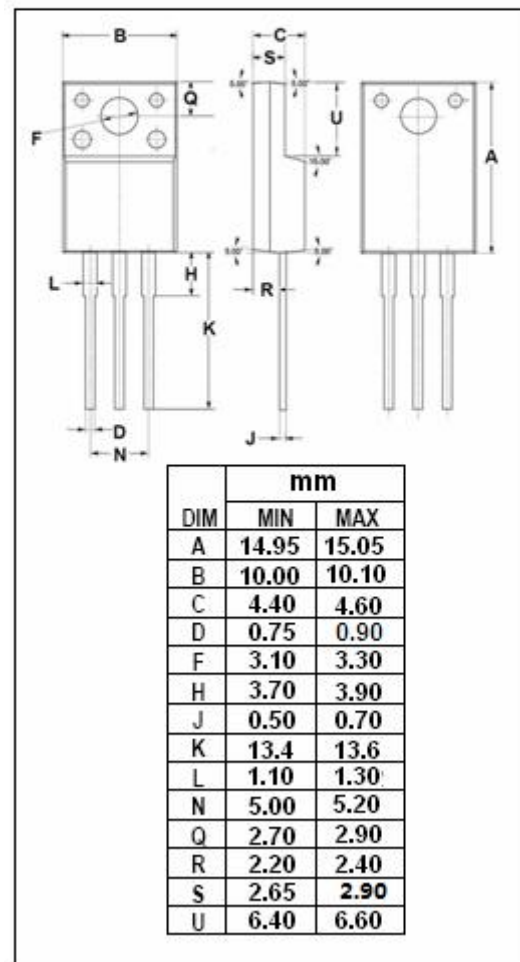
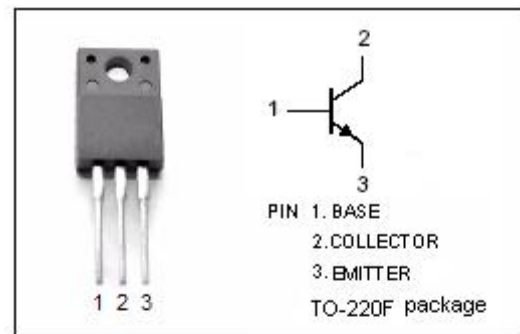
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400(\text{Min})$
- Excellent Switching Times-
: $t_r = 1.0 \mu\text{s}(\text{Max})$, $t_f = 1.0 \mu\text{s}(\text{Max}) @ I_C = 4\text{A}$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulator application
- High voltage switching application
- High Speed DC-DC converter application
- Fluorescent light ballastor application

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	7	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	30	
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 = 10mA ; I _B = 0	400			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA ; I _E = 0	500			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A ; I _B = 1A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A ; I _B = 1A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V ; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V ; I _C = 0			1	mA
h _{FE-1}	DC Current Gain	I _C = 3A ; V _{CE} = 5V	12			
h _{FE-2}	DC Current Gain	I _C = 5A ; V _{CE} = 5V	8			

Switching times

t _r	Rise Time	I _{B1} = -I _{B2} = 0.4A ; V _{CC} ≈200V R _L = 50 Ω ; P _W =20 μ s Duty≤1%			1.0	μ s
t _{stg}	Storage Time				2.5	μ s
t _f	Fall Time				1.0	μ s

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