

ISC Silicon NPN Power Transistor

2SC4371

DESCRIPTION

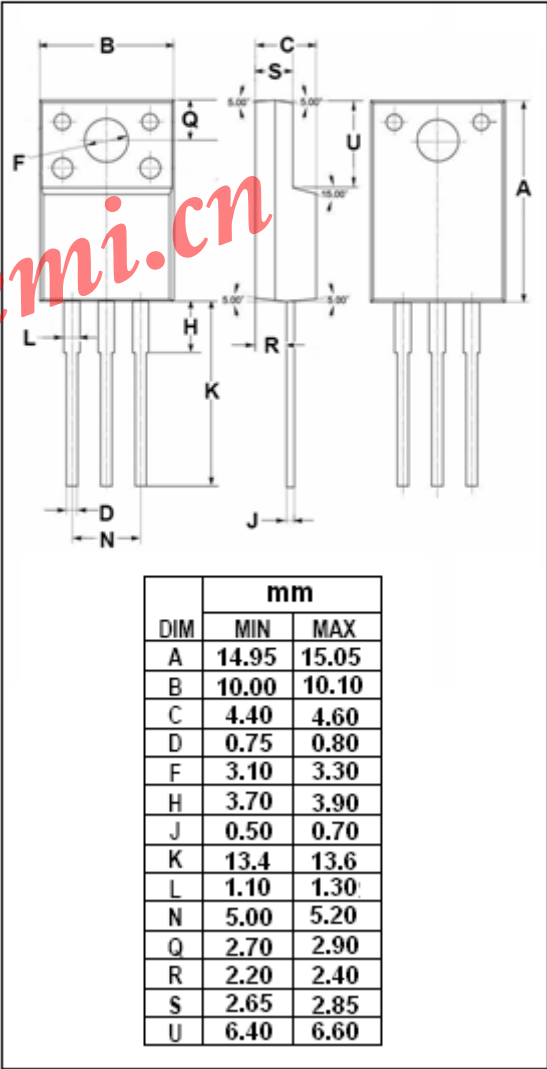
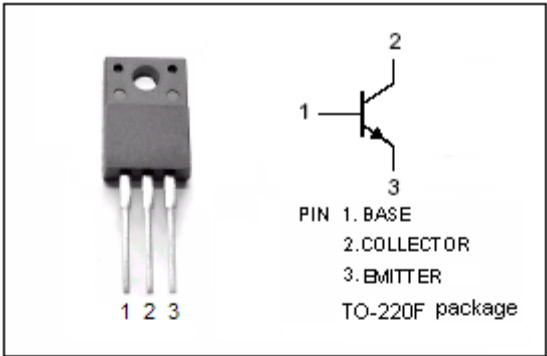
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400(\text{Min})$
- Excellent Switching Times-
: $t_r = 1.0 \mu s(\text{Max})$, $t_f = 1.0 \mu s(\text{Max}) @ I_C = 4A$

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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}$; $I_B=0$	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}$; $I_E=0$	500			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=1\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$; $I_B=1\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=400\text{V}$; $I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}$; $I_C=0$			1	mA
h_{FE-1}	DC Current Gain	$I_C=3\text{A}$; $V_{CE}=5\text{V}$	12			
h_{FE-2}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=5\text{V}$	8			

Switching times

t_r	Rise Time	$I_{B1}=-I_{B2}=0.4\text{A}$; $V_{CC}\approx 200\text{V}$ $R_L=50\Omega$; $P_W=20\mu\text{s}$ Duty $\leq 1\%$			1.0	μs
t_{stg}	Storage Time				2.5	μs
t_f	Fall Time				1.0	μs