

ISC Silicon NPN Power Transistor

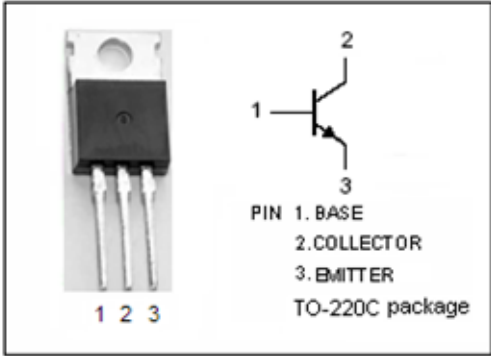
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DESCRIPTION

- High Voltage
- High Speed Switching
- High Power Dissipation

APPLICATIONS

- Designed for switching mode power supply and electronic ballast applications.

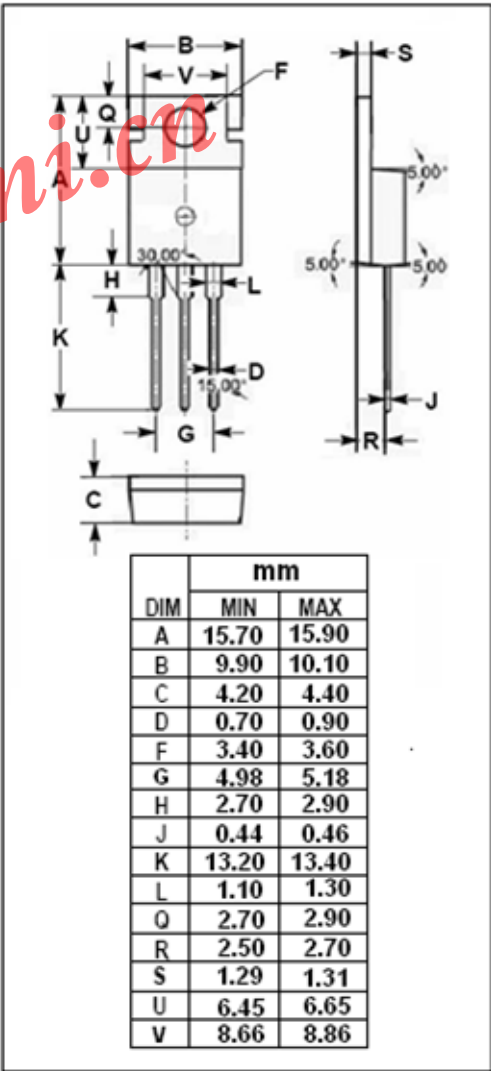


ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CES}	Collector-Emitter Voltage	800	V
V _{CER}	Collector-Emitter Voltage R _{BE} ≤ 100 Ω	800	V
V _{CEO}	Collector-Emitter Voltage	430	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current-Continuous	8	A
I _{CM}	Collector Current-Peak	10	A
I _{BM}	Base Current-Peak	4	A
P _C	Collector Power Dissipation @T _C =25°C	100	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.25	°C/W



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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	$I_C = 0.1\text{A}; I_B = 0, L = 125\text{mH}$	430			V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	$I_C = 0.5\text{mA}; I_B = 0, R_{BE} \leq 100\ \Omega$	800			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}; I_C = 0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 0.8\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 0.8\text{A}$			2.0	V
I_{CES}	Collector Cutoff Current	$V_{CE} = 800\text{V}; V_{BE} = 0$ $V_{CE} = 800\text{V}; V_{BE} = 0; T_C = 150^{\circ}\text{C}$			1.0 2.0	mA
h_{FE-1}	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 5\text{V}$	20		45	
h_{FE-2}	DC Current Gain	$I_C = 4\text{A}; V_{CE} = 5\text{V}$	5.5			
f_T	Current-Gain—Bandwidth Product	$I_C = 0.5\text{A}; V_{CE} = 10\text{V}$		10		MHz

Switching Times ;Resistive Load

t_{off}	Turn-off Time	$I_C = 4\text{A}; I_{B1} = -I_{B2} = 1.25\text{A}; t_p = 20\ \mu\text{s}$			4.0	μs
t_f	Fall Time				1.0	μs