

isc Silicon NPN Power Transistor
ST1510FX
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 750V(\text{Min.})$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

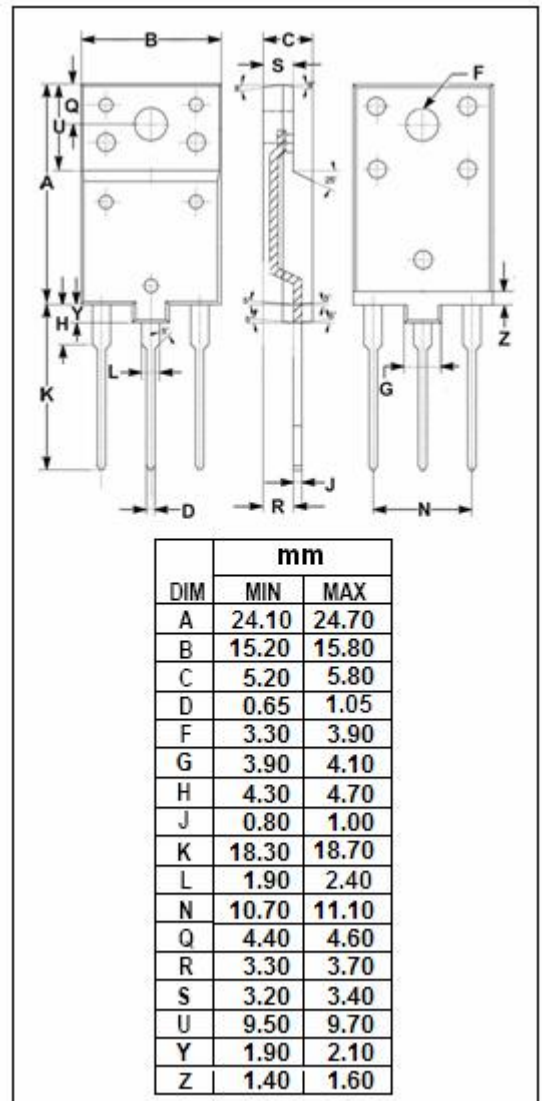
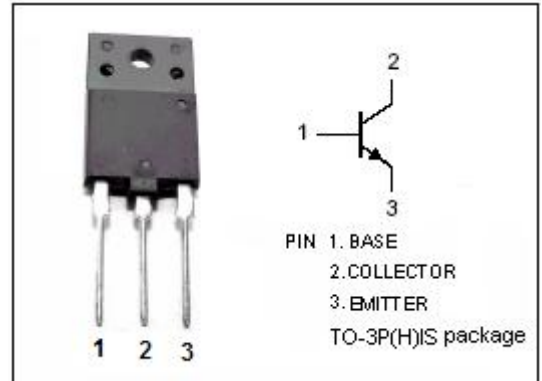
- Electronic ballast for fluorescent lighting.
- Switch mode power supplies.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Base Voltage $V_{BE}=0$	1500	V
V_{CEO}	Collector-Emitter Voltage	750	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	6	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	62	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	$^\circ\text{C}/\text{W}$



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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 = 50mA; I _B = 0	750			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	9			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 6.0A; I _B = 1.5A			2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6.0A; I _B = 1.5A			1.1	V
I _{CES}	Collector Cutoff Current	V _{CE} = 1500V V _{CE} = 1500V; T _C =125°C			0.2 2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 9V; I _C = 0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	15			
h _{FE-2}	DC Current Gain	I _C = 6A; V _{CE} = 5V	6.5		9.5	
h _{FE-3}	DC Current Gain	I _C = 7A; V _{CE} = 1V		5.5		
Switching Times						
t _s	Storage Time	I _C = 6A; I _{B1} =1.2A; I _{B2} = 2.4A;		2		μs
t _f	Fall Time			0.2		μs

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