

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

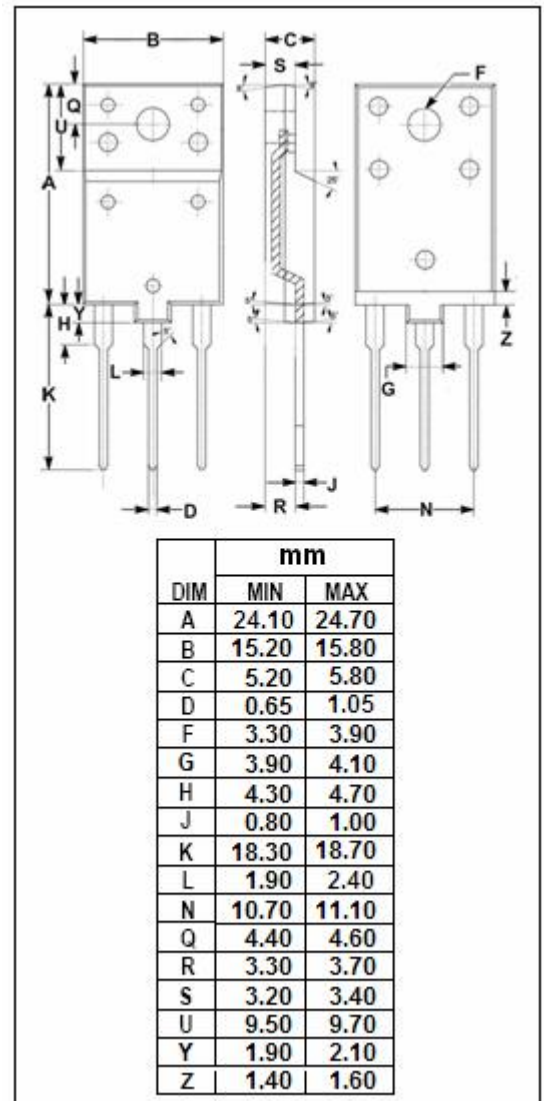
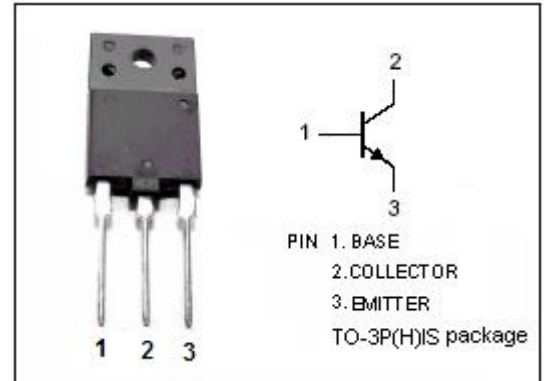
- Electronic ballast for fluorescent lighting.
- Switch mode power supplies.

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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	750			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	9			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6.0\text{A}; I_B=1.5\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6.0\text{A}; I_B=1.5\text{A}$			1.1	V
I_{CES}	Collector Cutoff Current	$V_{CE}=1500\text{V}$ $V_{CE}=1500\text{V}; T_C=125^{\circ}\text{C}$			0.2 2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			1.0	mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	15			
h_{FE-2}	DC Current Gain	$I_C=6\text{A}; V_{CE}=5\text{V}$	6.5		9.5	
h_{FE-3}	DC Current Gain	$I_C=7\text{A}; V_{CE}=1\text{V}$		5.5		
Switching Times						
t_s	Storage Time	$I_C=6\text{A}; I_{B1}=1.2\text{A}; I_{B2}=2.4\text{A};$		2		μs
t_f	Fall Time			0.2		μs

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