

isc Silicon NPN Power Transistor

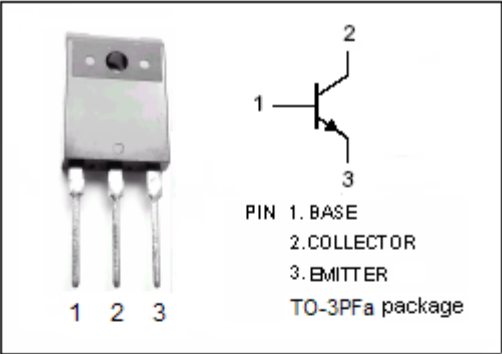
2SD1850

DESCRIPTION

- High Voltage
- High Switching Speed
- Wide Area of Safe Operation

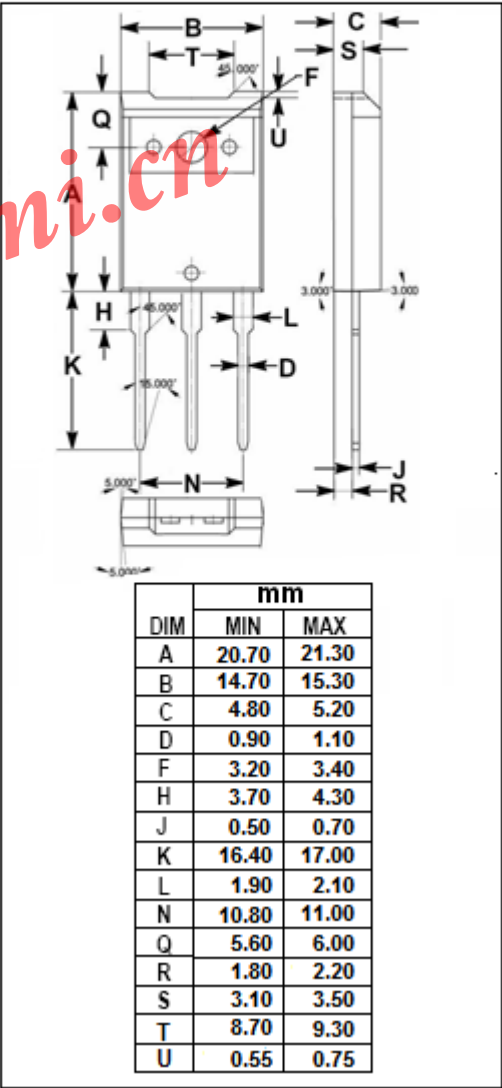
APPLICATIONS

- Designed for horizontal deflection output applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CES}	Collector-Emitter Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	7	A
I_{CP}	Collector Current-Peak	20	A
I_B	Base Current- Continuous	3	A
P_C	Collector Power Dissipation @ $T_a=25^{\circ}\text{C}$	3	W
	Collector Power Dissipation @ $T_c=25^{\circ}\text{C}$	120	
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
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.5\text{A}$			8.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.5\text{A}$			1.5	V
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	5		25	
h_{FE-2}	DC Current Gain	$I_C=6\text{A}; V_{CE}=5\text{V}$	4.5			
I_{CBO}	Collector Cutoff Current	$V_{CB}=1000\text{V}; I_E=0$			10	μA
		$V_{CB}=1500\text{V}; I_E=0$			1.0	mA
f_T	Transition Frequency	$I_C=1\text{A}; V_{CE}=10\text{V}$		2		MHz

Switching Times, Resistive Load

t_s	Storage Time	$I_C=6\text{A}; I_{B1}=1.5\text{A}; I_{B2}=-3\text{A}, V_{CC}=200\text{V}$		1.5		μs
t_f	Fall Time			0.2		μs