

**isc Silicon NPN Darlington Power Transistor**
**2SD1515**
**DESCRIPTION**

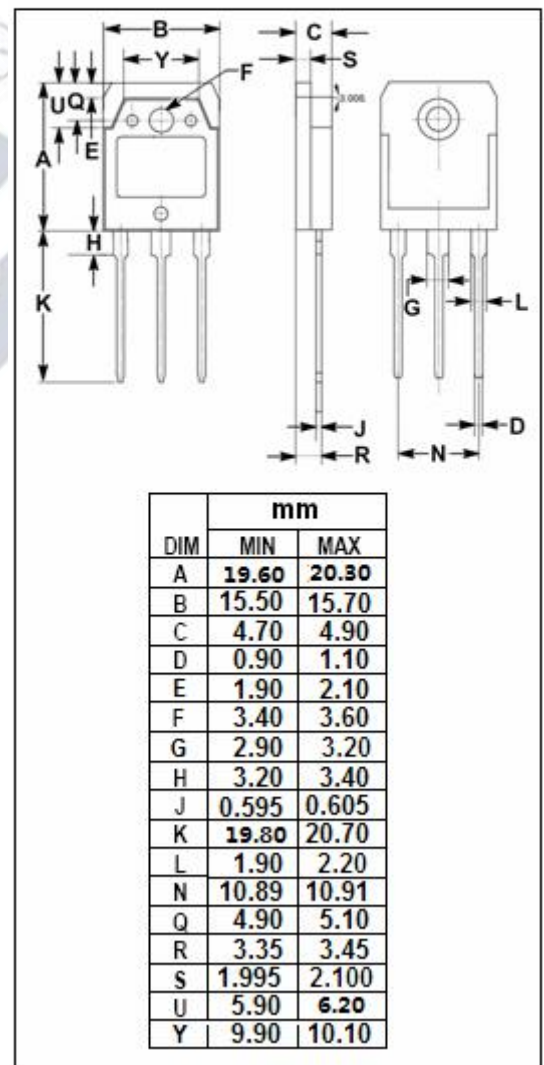
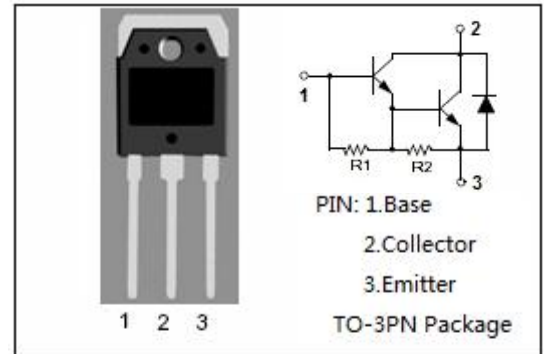
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 200V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 1000(\text{Min}) @ I_C = 10A, V_{CE} = 3V$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low frequency power amplifier and high current switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	200	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current- Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	100	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Darlington Power Transistor****2SD1515****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =10mA, R <sub>BE</sub> = ∞	200			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 5mA , I <sub>C</sub> = 0	7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A , I <sub>B</sub> = 10mA			2.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 12A , I <sub>B</sub> = 20mA			2.5	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A , I <sub>B</sub> = 10mA			2.5	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 12A , I <sub>B</sub> = 20mA			3.0	V
I <sub>CBO</sub>	Collector Cutoff current	V <sub>CB</sub> = 200V, I <sub>E</sub> = 0			0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0			5	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 3V	1000		20000	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 10A ; V <sub>CE</sub> = 3V	1000			

**Switching Times**

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 6A, I <sub>B1</sub> = I <sub>B2</sub> = 10mA			2.0	μ s
t <sub>stg</sub>	Storage Time				10	μ s
t <sub>f</sub>	Fall Time				7.0	μ s