

isc Silicon NPN Darlington Power Transistor

2SD1115

**DESCRIPTION**

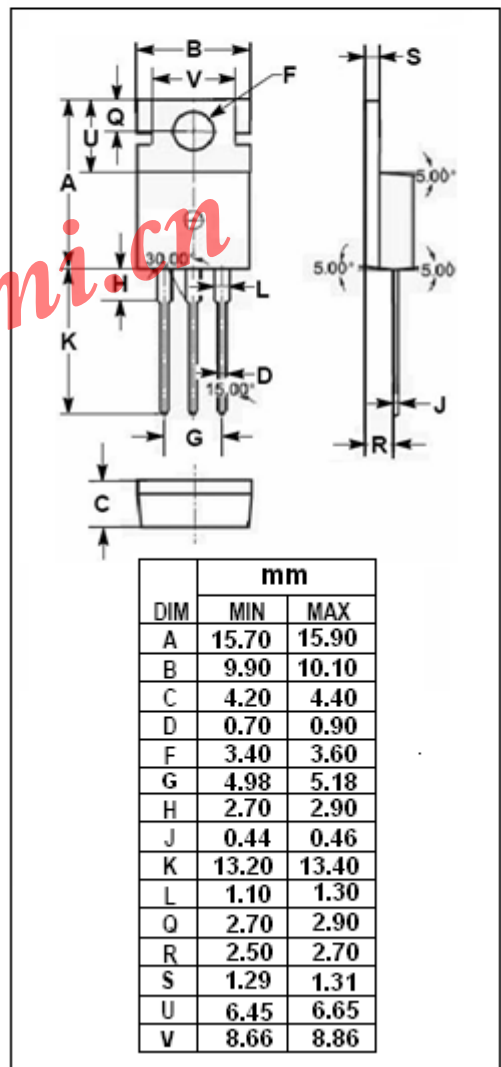
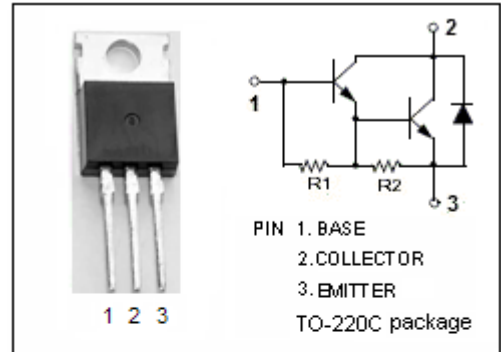
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 300V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 500(\text{Min}) @ I_C = 2A$

**APPLICATIONS**

- Designed for high voltage switching, igniter applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	400	V
$V_{CEO}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CP}$	Collector Current-Peak	6	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	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****2SD1115****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=2\text{A}$ ; $L=10\text{mH}$ , $PW=50\mu\text{s}$ ; $f=50\text{Hz}$	300			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}$ ; $I_E=0$	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}$ ; $I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}$ ; $I_B=20\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}$ ; $I_B=20\text{mA}$			2.0	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=300\text{V}$ ; $R_{BE}=\infty$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=2\text{A}$ ; $V_{CE}=2\text{V}$	500			

## Switching times

$t_{on}$	Turn-on Time	$I_C=2\text{A}$ , $I_{B1}=-I_{B2}=20\text{mA}$		1.0		$\mu\text{s}$
$t_{off}$	Turn-Off Time			22		$\mu\text{s}$