

## isc Silicon NPN Darlington Power Transistor

2SD1127

## DESCRIPTION

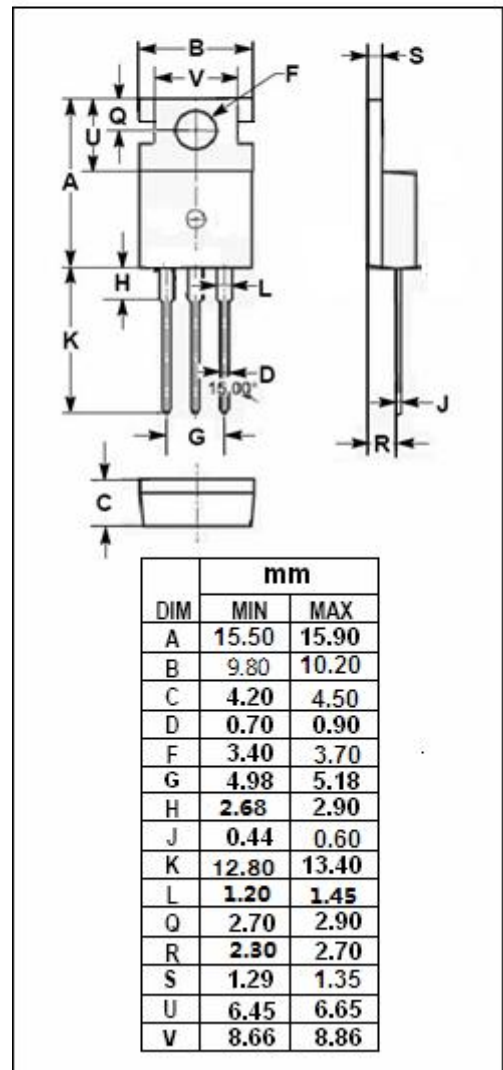
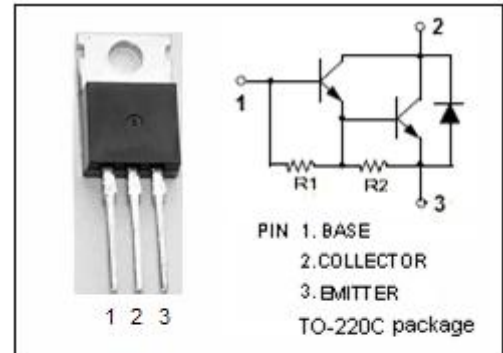
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 120V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 1000(\text{Min}) @ I_C = 10A$
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for power switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	120	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	10	A
$I_{CP}$	Collector Current-Peak	15	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	50	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****2SD1127****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; R <sub>BE</sub> = ∞	120			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)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 25mA			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 25mA			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 120V; I <sub>E</sub> =0			100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10A; V <sub>CE</sub> = 2V	1000			

**Switching times**

t <sub>on</sub>	Turn-On Time	I <sub>C</sub> = 5A, I <sub>B1</sub> = I <sub>B2</sub> = 10mA		0.8		μ s
t <sub>off</sub>	Turn-Off Time			8.0		μ s

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