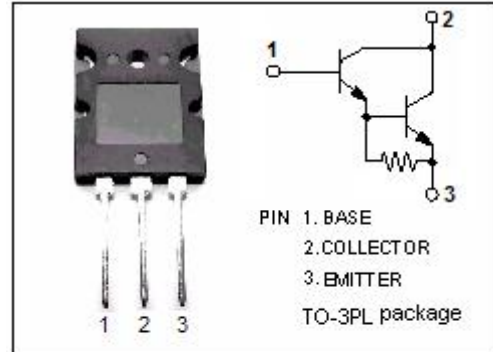


**isc Silicon NPN Darlington Power Transistor**
**2SD2222**
**DESCRIPTION**

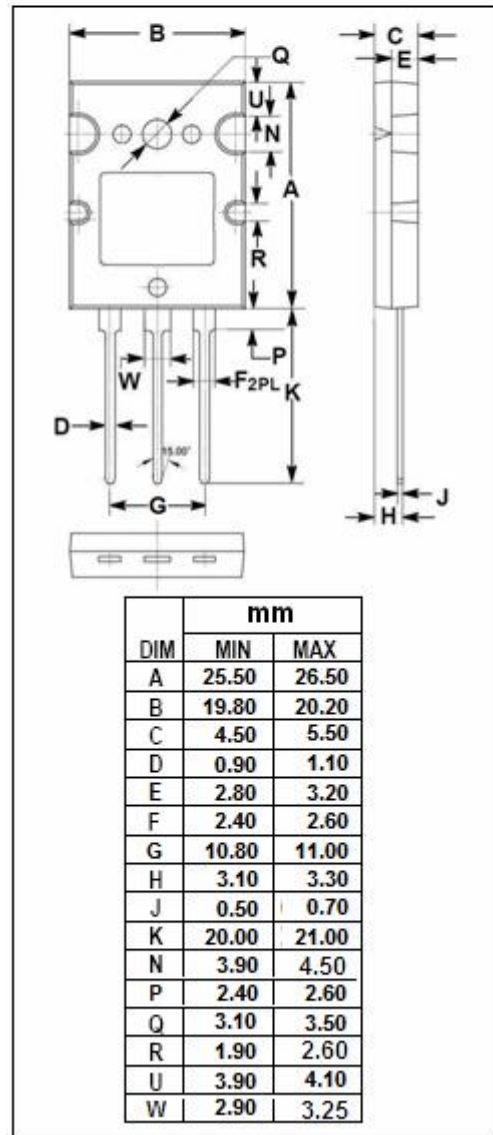
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 160V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 3500(\text{Min.}) @ (I_C = 7A, V_{CE} = 5V)$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 3.0V(\text{Max}) @ (I_C = 7A, I_B = 7mA)$
- Complement to Type 2SB1470
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


**APPLICATIONS**

- Designed for power amplification.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	15	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	150	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



## isc Silicon NPN Darlington Power Transistor

2SD2222

## ELECTRICAL CHARACTERISTICS

T<sub>j</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> = 30mA ; I <sub>B</sub> = 0	160			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 7mA			3.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 7mA			3.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 160V; I <sub>E</sub> = 0			100	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 160V; I <sub>B</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			100	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	1000			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 7A; V <sub>CE</sub> = 5V	3500		20000	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V		20		MHz

◆ h<sub>FE-2</sub> Classifications

Q	P
3500-10000	7000-20000

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