

**isc Silicon NPN Darlington Power Transistor**
**2SD2250**
**DESCRIPTION**

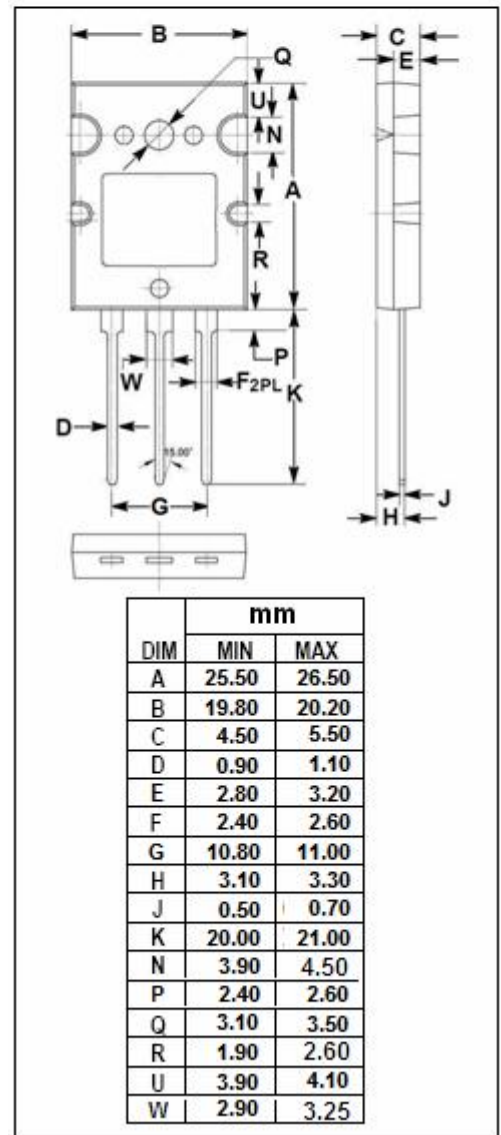
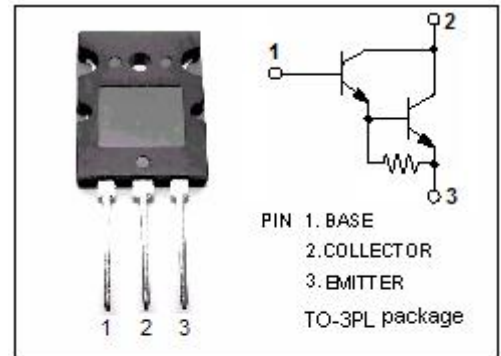
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 140V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 5000(\text{Min.}) @ (I_C = 6A, V_{CE} = 5V)$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.5V(\text{Max}) @ (I_C = 6A, I_B = 6mA)$
- Complement to Type 2SB1490
- Minimum Lot-to-Lot 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	140	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	7	A
$I_{CM}$	Collector Current-Peak	12	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	90	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



## isc Silicon NPN Darlington Power Transistor

2SD2250

## 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	140			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 6mA			2.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 6mA			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> = 140V; 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	2000			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 6A; V <sub>CE</sub> = 5V	5000		30000	
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
5000-15000	8000-30000

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