

**isc Silicon NPN Darlington Power Transistor**
**2SD1572**
**DESCRIPTION**

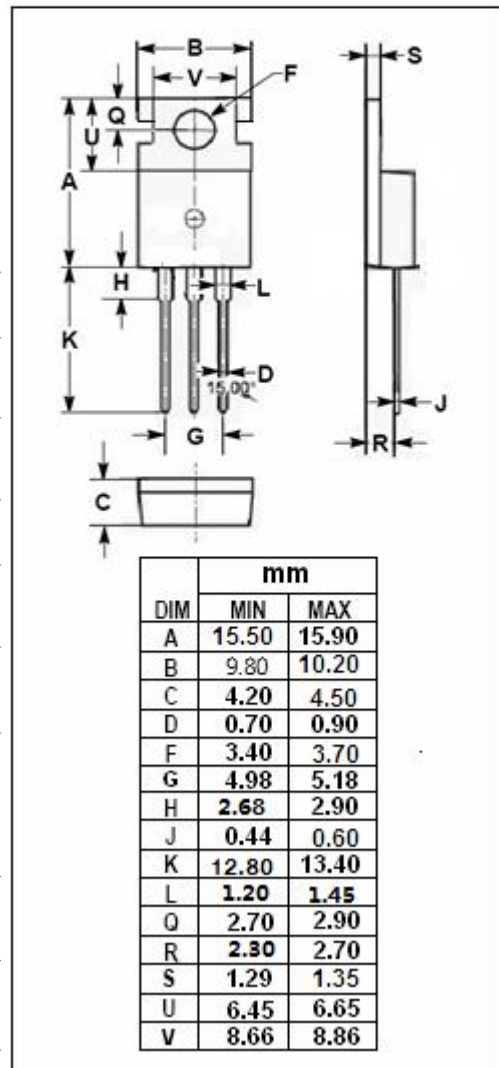
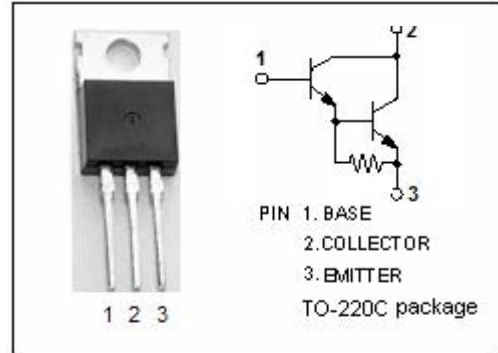
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min}) @ I_C = 4\text{A}$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 60\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = 1.5\text{V}(\text{Max}) @ I_C = 4\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for low frequency power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	12	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	40	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{\text{stg}}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**
 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=25\text{mA}, I_B=0$	60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}, I_B=8\text{mA}$			1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}, I_B=80\text{mA}$			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}, I_B=8\text{mA}$			2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}, I_B=80\text{mA}$			3.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=60\text{V}, I_E=0$			0.1	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=50\text{V}, I_B=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			50	mA
$h_{FE-1}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=3\text{V}$	1000		20000	

## Switching Times

$t_{on}$	Turn-on Time	$I_C=4\text{A}; I_{B1}=I_{B2}=8\text{mA}$	0.5	$\mu\text{s}$
$t_s$	Storage Time		6.0	$\mu\text{s}$
$t_f$	Fall Time		1.5	$\mu\text{s}$

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