

**isc Silicon NPN Darlington Power Transistor**
**2SD836**
**DESCRIPTION**

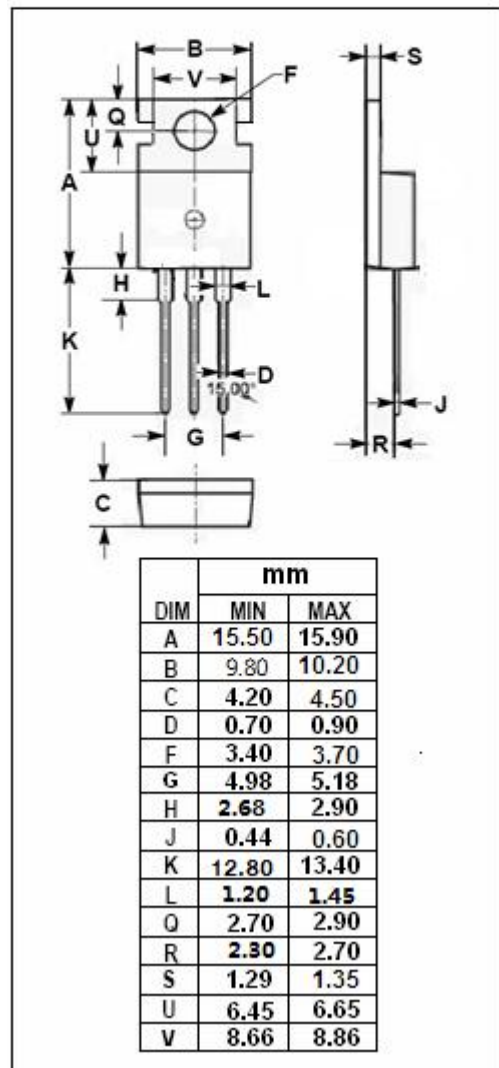
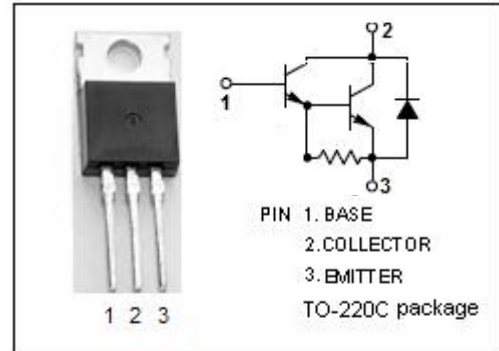
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min.}) @ I_C = 2\text{A}$
- High Switching Speed
- Complement to Type 2SB750
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- AF power amplifiers
- General purpose power amplifiers

**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	5	V
$I_C$	Collector Current-Continuous	2	A
$I_{CM}$	Base Current-Peak	4	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	35	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</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	60			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 8mA			2.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 4V			2.8	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			0.2	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 30V; I <sub>B</sub> = 0			0.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> =0			2	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 4V	1000			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 4V	1000		10000	

**Switching Times**

t <sub>on</sub>	Turn-On Time	I <sub>C</sub> = 2A; I <sub>B1</sub> =I <sub>B2</sub> = 8mA		0.4		μ s
t <sub>off</sub>	Turn-Off Time			4		μ s

**◆ h<sub>FE-2</sub>Classifications**

R	Q	P
1000-2500	2000-5000	4000-10000

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