

## Silicon NPN Darlington Power Transistors

2SD2386

## DESCRIPTION

- With TO-3P(I) package
- Complement to type 2SB1557
- High breakdown voltage:  $V_{CEO}=140V(\text{Min})$

## APPLICATIONS

- Power amplifier applications

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

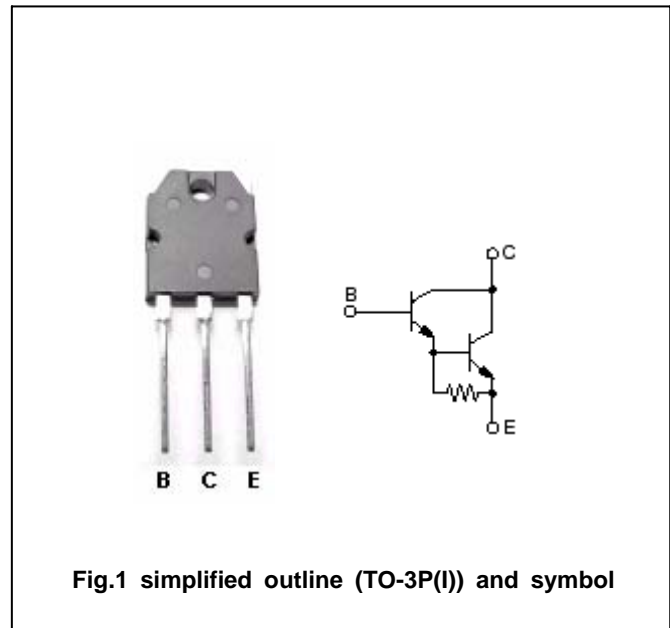


Fig.1 simplified outline (TO-3P(I)) and symbol

Absolute maximum ratings( $T_a=^{\circ}\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	140	V
$V_{CEO}$	Collector-emitter voltage	Open base	140	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		7	A
$I_B$	Base current		0.1	A
$P_C$	Collector power dissipation	$T_C=25^{\circ}\text{C}$	70	W
$T_j$	Junction temperature		150	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^{\circ}\text{C}$

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## 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> =50mA ; I <sub>B</sub> =0	140			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A ; I <sub>B</sub> =6mA			2.5	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =6A ; V <sub>CE</sub> =5V			3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =140V I <sub>E</sub> =0			5.0	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			5.0	μ A
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =5V	5000		30000	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =5V	2000			
C <sub>ob</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V;f=1MHz		90		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V		30		MHz

◆ h<sub>FE-1</sub> Classifications

A	B	C
5000-12000	9000-18000	15000-30000

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PACKAGE OUTLINE

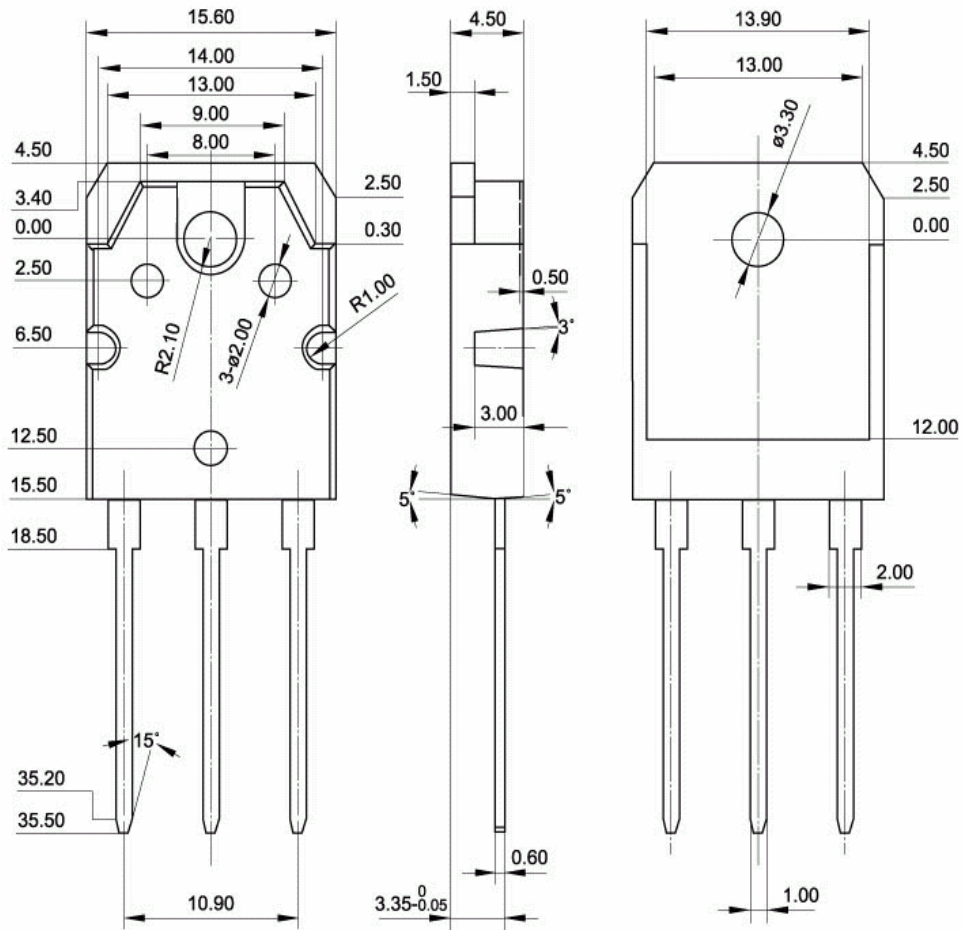


Fig.2 outline dimensions (unindicated tolerance: ±0.1mm)