

## Silicon NPN Power Transistors

## 2N5758 2N5759 2N5760

## DESCRIPTION

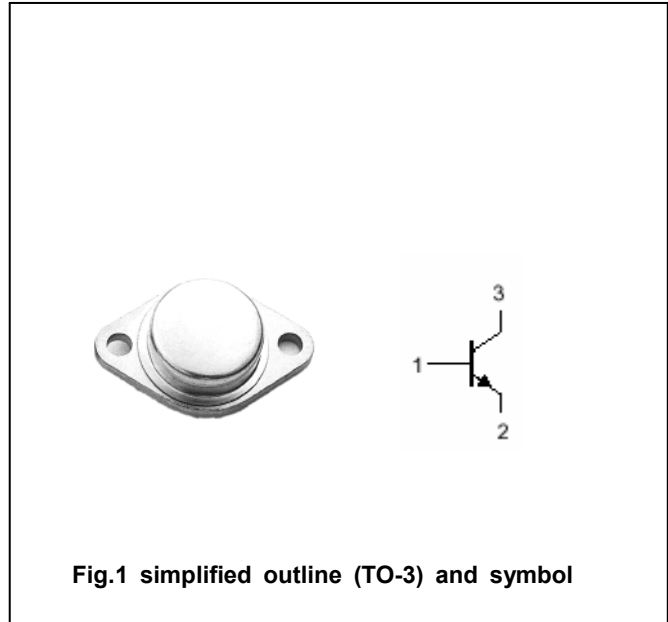
- With TO-3 package
- Low collector saturation voltage
- Excellent safe operating area

## APPLICATIONS

- For use in high power audio amplifier applications and high voltage switching regulator circuits

## PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings( $T_a = \square$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2N5758	100	V
		2N5759	120	
		2N5760	140	
$V_{CEO}$	Collector-emitter voltage	2N5758	100	V
		2N5759	120	
		2N5760	140	
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		6	A
$I_{CM}$	Collector current-peak		10	A
$I_B$	Base current		4	A
$P_D$	Total Power Dissipation	$T_C = 25 \square$	150	W
$T_j$	Junction temperature		150	$\square$
$T_{stg}$	Storage temperature		-65~200	$\square$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.17	$\square/W$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	2N5758	100			V	
		2N5759	120				
		2N5760	140				
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			1.0	V	
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A; I <sub>B</sub> =1.2A			2.0	V	
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =3A; V <sub>CE</sub> =2V			1.5	V	
I <sub>CEO</sub>	Collector cut-off current	2N5758	V <sub>CE</sub> =50V; I <sub>B</sub> =0			1.0	mA
		2N5759	V <sub>CE</sub> =60V; I <sub>B</sub> =0				
		2N5760	V <sub>CE</sub> =70V; I <sub>B</sub> =0				
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =ratedV <sub>CB</sub> ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =150 °C			1.0 5.0	mA	
I <sub>CBO</sub>	Collector cut-off current	V <sub>CE</sub> =ratedV <sub>CB</sub> ; I <sub>B</sub> =0			1.0	mA	
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			1.0	mA	
h <sub>FE-1</sub>	DC current gain	2N5758	I <sub>C</sub> =3A; V <sub>CE</sub> =2V	25		100	
		2N5759		20		80	
		2N5760		15		60	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A; V <sub>CE</sub> =2V	5.0				
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=0.1MHz			300	pF	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A; V <sub>CE</sub> =20V	1.0			MHz	

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PACKAGE OUTLINE

