

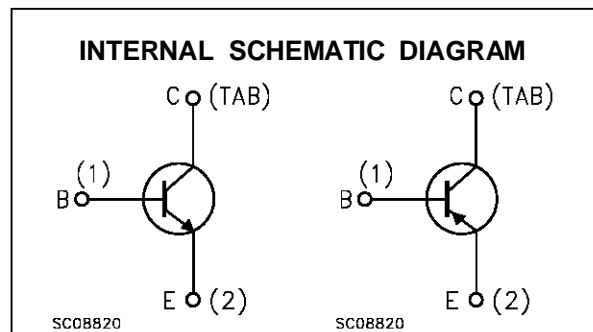
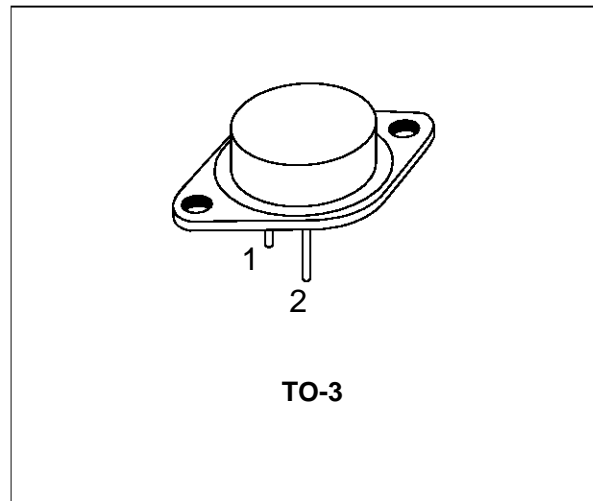
**COMPLEMENTARY SILICON
HIGH POWER TRANSISTORS**

- 2N5884, 2N5885 AND 2N5886 ARE SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The 2N5885 and 2N5886 are silicon epitaxial-base NPN power transistor in Jedec TO-3 metal case intended for use in power linear amplifiers and switching applications.

The complementary PNP types are 2N5883 and 2N5884 respectively.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit	
		PNP	2N5883		2N5884
		NPN	2N5885	2N5886	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)		60	80	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)		60	80	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)		5		V
I_C	Collector Current		25		A
I_{CM}	Collector Peak Current		50		A
I_B	Base Current		7.5		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ C$		200		W
T_{stg}	Storage Temperature		-65 to 200		$^\circ C$
T_j	Max. Operating Junction Temperature		200		$^\circ C$

For PNP types voltage and current values are negative.

2N5883/2N5884/2N5885/2N5886

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.875	$^{\circ}C/W$
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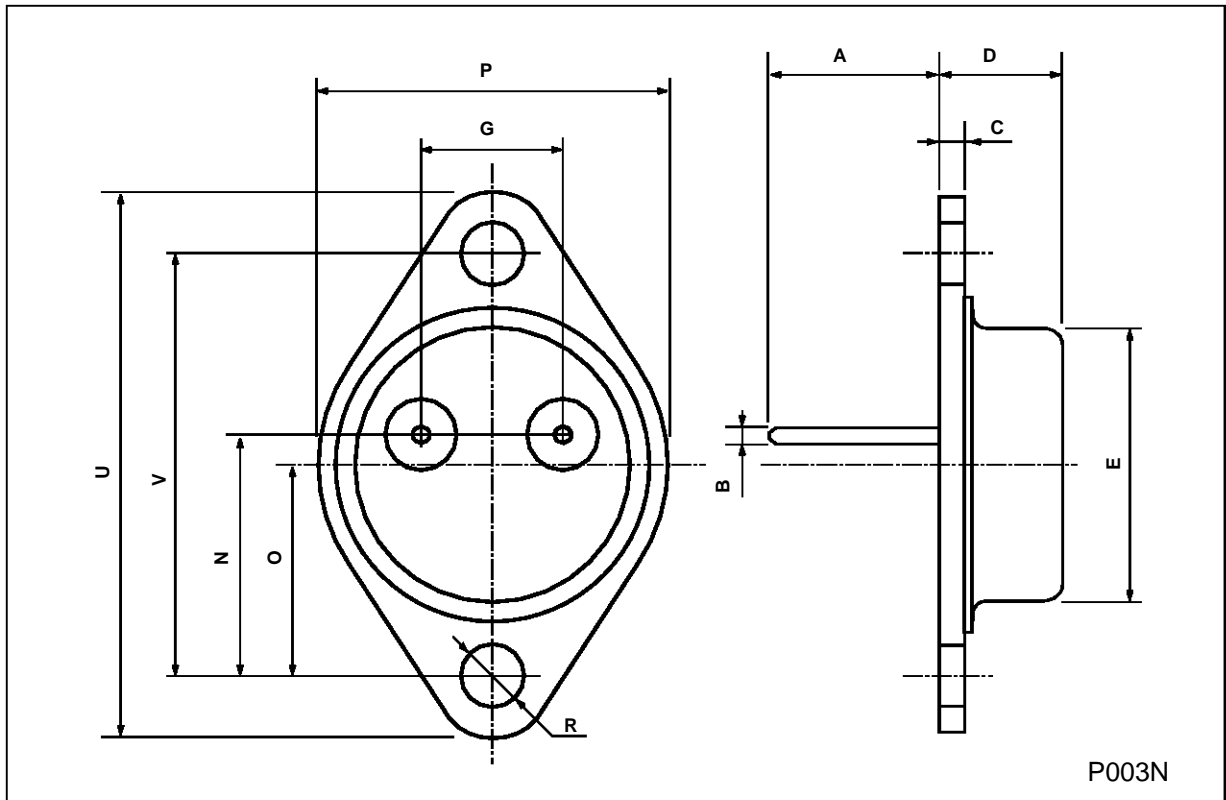
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current ($V_{BE} = -1.5V$)	$V_{CE} = \text{rated } V_{CE0}$ $V_{CE} = \text{rated } V_{CE0}$ $T_c = 150^{\circ}C$			1 10	mA mA
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CE} = \text{rated } V_{CBO}$			1	mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	for 2N5883/2N5885 $V_{CE} = 30 V$ for 2N5884/2N5886 $V_{CE} = 40 V$			2 2	mA mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5 V$			1	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 200 \text{ mA}$ for 2N5883/2N5885 for 2N5884/2N5886	60 80			V V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 15 A$ $I_B = 1.5 A$ $I_C = 25 A$ $I_B = 6.25 A$			1 4	V V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 25 A$ $I_B = 6.25 A$			2.5	V
V_{BE*}	Base-Emitter Voltage	$I_C = 10 A$ $V_{CE} = 4 V$			1.5	V
h_{FE*}	DC Current Gain	$I_C = 3 A$ $V_{CE} = 4 V$ $I_C = 10 A$ $V_{CE} = 4 V$ $I_C = 25 A$ $V_{CE} = 4 V$	35 20 4		100	
h_{fe}	Small Signal Current Gain	$I_C = 3 A$ $V_{CE} = 4 V$ $f = 1KHz$	20			
f_T	Transition frequency	$I_C = 1 A$ $V_{CE} = 10 V$ $f = 1 \text{ MHz}$	4			MHz
C_{CBO}	Collector Base Capacitance	$I_E = 0$ $V_{CB} = 10 V$ $f = 1 \text{ MHz}$ for NPN types for PNP types			500 1000	pF pF
t_r	Rise Time	$I_C = 10 A$ $V_{CC} = 30 V$			0.7	μs
t_s	Storage Time	$I_{B1} = -I_{B2} = 1A$			1	μs
t_f	Fall Time				0.8	μs

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5%

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	



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