

DESCRIPTION

- DC Current Gain-
: $h_{FE} = 20(\text{Min}) @ I_C = -10A$
- Low Saturation Voltage-
: $V_{CE(sat)} = -1.0V(\text{Max}) @ I_C = -15A$
- Complement to Type 2N5885/5886

APPLICATIONS

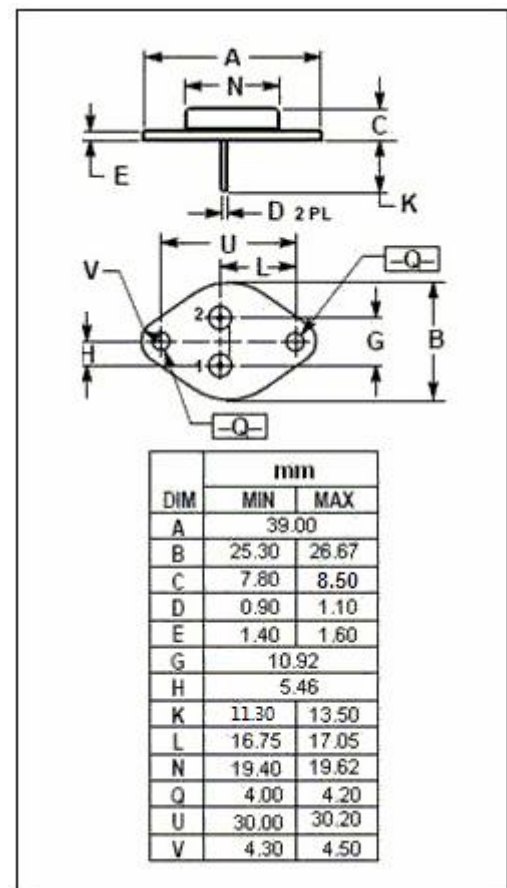
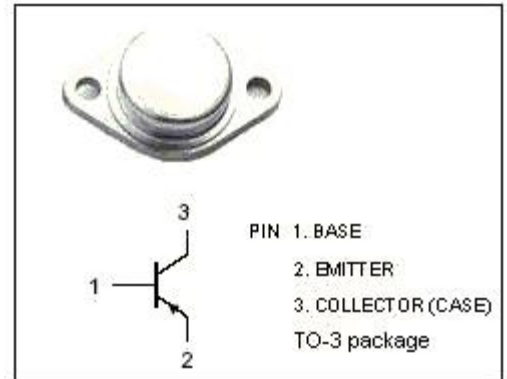
- Designed for general purpose power amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	2N5883	-60
		2N5884	-80
V_{CEO}	Collector-Emitter Voltage	2N5883	-60
		2N5884	-80
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-25	A
I_{CM}	Collector Current-Peak	-50	A
I_B	Base Current-Continuous	-7.5	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	200	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.875	$^\circ\text{C}/\text{W}$



SPTECH Silicon PNP Power Transistors

2N5883/5884

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	2N5883	$I_C=-50\text{mA}$; $I_B=0$	-60		V
		2N5884		-80		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=-15\text{A}$; $I_B=-1.5\text{A}$		-1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=-25\text{A}$; $I_B=-6.25\text{A}$		-4.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C=-25\text{A}$; $I_B=-6.25\text{A}$		-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=-10\text{A}$; $V_{CE}=-4\text{V}$		-1.5	V
I_{CEO}	Collector Cutoff Current	2N5883	$V_{CE}=-30\text{V}$; $I_B=0$		-2.0	mA
		2N5884	$V_{CE}=-40\text{V}$; $I_B=0$		-2.0	
I_{CEX}	Collector Cutoff Current	2N5883	$V_{CE}=-60\text{V}$; $V_{BE(off)}=1.5\text{V}$ $V_{CE}=-60\text{V}$; $V_{BE(off)}=1.5\text{V}$, $T_C=150^{\circ}\text{C}$		-1.0 -10	mA
		2N5884	$V_{CE}=-80\text{V}$; $V_{BE(off)}=1.5\text{V}$ $V_{CE}=-80\text{V}$; $V_{BE(off)}=1.5\text{V}$, $T_C=150^{\circ}\text{C}$		-1.0 -10	
I_{CBO}	Collector Cutoff Current	2N5883	$V_{CB}=-60\text{V}$; $I_E=0$		-1.0	mA
		2N5884	$V_{CB}=-80\text{V}$; $I_E=0$		-1.0	
I_{EBO}	Emitter Cutoff Current		$V_{EB}=-5\text{V}$; $I_C=0$		-1.0	mA
h_{FE-1}	DC Current Gain		$I_C=-3\text{A}$; $V_{CE}=-4\text{V}$	35		
h_{FE-2}	DC Current Gain		$I_C=-10\text{A}$; $V_{CE}=-4\text{V}$	20	100	
h_{FE-3}	DC Current Gain		$I_C=-25\text{A}$; $V_{CE}=-4\text{V}$	4		
C_{OB}	Output Capacitance		$I_E=0$; $V_{CB}=-10\text{V}$; $f_{test}=1\text{MHz}$		500	pF
f_T	Current-Gain—Bandwidth Product		$I_C=-1\text{A}$; $V_{CE}=-10\text{V}$; $f_{test}=1\text{MHz}$	4		MHz

Switching Times

t_r	Rise Time	$I_C=-10\text{A}$; $I_{B1}=-I_{B2}=-1\text{A}$; $V_{CC}=-30\text{V}$		0.7	μs
t_{stg}	Storage Time			1.0	μs
t_f	Fall Time			0.8	μs