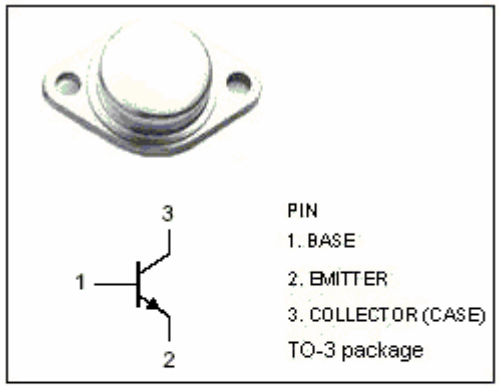
isc Silicon NPN Power Transistors 2N5885/5886

DESCRIPTION

- DC Current Gain-
  : h_{FE}= 20(Min)@I_C= 10A
- Low Saturation Voltage-
  : $V_{CE(sat)}$= 1.0V(Max)@ I_C= 15A
- Complement to Type 2N5883/5884

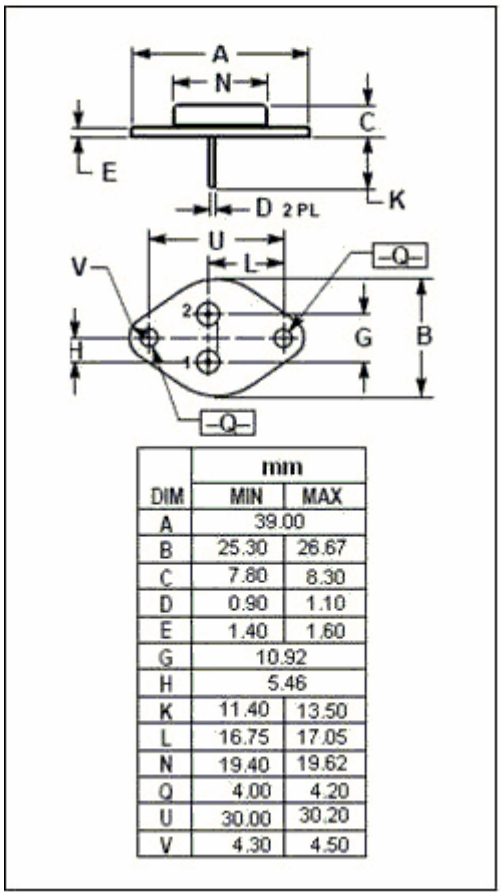


APPLICATIONS

- Designed for general purpose power amplifier and switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	2N5885	60	V
		2N5886	80	
V_{CEO}	Collector-Emitter Voltage	2N5885	60	V
		2N5886	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℃		200	W
T_J	Junction Temperature		200	℃
T_{stg}	Storage Temperature		-65~200	℃



DIM	mm	
	MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	2N5885	I_C= 200mA ; I_B= 0	60		V
		2N5886		80		
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= 15A; I_B= 1.5A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= 25A; I_B= 6.25A		4.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C= 25A; I_B= 6.25A		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 10A ; V_{CE}= 4V		1.5	V
I_{CEO}	Collector Cutoff Current	2N5885	V_{CE}= 30V; I_B= 0		2.0	mA
		2N5886	V_{CE}= 40V; I_B= 0		2.0	
I_{CEX}	Collector Cutoff Current	2N5885	V_{CE}= 60V; $V_{BE(off)}$= 1.5V V_{CE}= 60V; $V_{BE(off)}$= 1.5V,T_C=150℃		1.0 10	mA
		2N5886	V_{CE}= 80V; $V_{BE(off)}$= 1.5V V_{CE}= 80V; $V_{BE(off)}$= 1.5V,T_C=150℃		1.0 10	
I_{CBO}	Collector Cutoff Current	2N5885	V_{CB}= 60V; I_E= 0		1.0	mA
		2N5886	V_{CB}= 80V; I_E= 0		1.0	
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C=0		1.0	mA
h_{FE-1}	DC Current Gain		I_C= 3A ; V_{CE}= 4V	35		
h_{FE-2}	DC Current Gain		I_C= 10A ; V_{CE}= 4V	20	100	
h_{FE-3}	DC Current Gain		I_C= 25A ; V_{CE}= 4V	4		
C_{OB}	Output Capacitance		I_E= 0;V_{CB}= 10V;f_{test}= 1MHz		500	pF
f_T	Current-Gain—Bandwidth Product		I_C= 1A ; V_{CE}= 10V ;f_{test}= 1MHz	4		MHz
Switching Times						
t_r	Rise Time		I_C= 10A; I_{B1}= -I_{B2}= 1A;V_{CC}= 30V		0.7	μs
t_{stg}	Storage Time				1.0	μs
t_f	Fall Time				0.8	μs