

FEATURES:

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number
- Available Non-RoHS (standard) or RoHS compliant (add PBF suffix)

MAXIMUM RATINGS

Ratings	Symbol	2N5883 2N5885	2N5884 2N5886	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	V
Collector-Base Voltage	V_{CBO}	60	80	V
Emitter-Base Voltage	V_{EBO}	5		V
Collector Current -Continuous Peak	I_C	25 50		A
Base Current	I_B	7.5		A
Total Power Dissipation Derate above 25°C	P_D	200 1.15		W W/°C
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +200		°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	0.875		°C/W

ELECTRICAL CHARACTERISTICS @ 25°C unless otherwise noted

Characteristics	Symbol	Min	Max	Unit
Collector Emitter Sustaining Voltage $I_C = 200\text{mA}, I_B = 0$	$V_{CEO(sus)}$	60	-	V
2N5883, 2N5885 2N5884, 2N5886		80	-	
Collector Cutoff Current $V_{CE} = 30\text{V}, I_B = 0$ $V_{CE} = 40\text{V}, I_B = 0$	I_{CEO}	-	2.0	mA
2N5883, 2N5885 2N5884, 2N5886		-	2.0	
Collector Cutoff Current $V_{CE} = 60\text{V}, V_{BE(off)} = 1.5\text{V}$ $V_{CE} = 80\text{V}, V_{BE(off)} = 1.5\text{V}$ $V_{CE} = 60\text{V}, V_{BE(off)} = 1.5\text{V}, T_C = 150^\circ\text{C}$ $V_{CE} = 80\text{V}, V_{BE(off)} = 1.5\text{V}, T_C = 150^\circ\text{C}$	I_{CEX}	-	1.0	mA
2N5883, 2N5885		-	1.0	
2N5884, 2N5886		-	10	
2N5883, 2N5885 2N5884, 2N5886		-	10	
Collector Cutoff Current $V_{CE} = 60\text{V}, I_E = 1.5\text{V}$ $V_{CE} = 80\text{V}, I_E = 1.5\text{V}$	I_{CBO}	-	1.0	mA
2N5883, 2N5885 2N5884, 2N5886		-	1.0	
Emitter Cutoff Current $V_{EB} = 5.0\text{V}, I_C = 0$	I_{EBO}	-	1.0	mA
DC Current Gain ⁽¹⁾ $I_C = 3\text{A}, V_{CE} = 4\text{V}$ $I_C = 10\text{A}, V_{CE} = 4\text{V}$ $I_C = 25\text{A}, V_{CE} = 4\text{V}$	h_{FE}	35	-	-
2N5883, 2N5885		20	100	
2N5884, 2N5886		4.0	-	
Collector-Emitter Saturation Voltage ⁽¹⁾ $I_C = 15\text{A}, I_B = 1.5\text{A}$ $I_C = 25\text{A}, I_B = 6.25\text{A}$	$V_{CE(sat)}$	-	1.0	V
2N5883, 2N5885		-	4.0	
Base-Emitter On- Voltage $I_C = 10\text{A}, V_{CE} = 4.0\text{A}$	$V_{BE(ON)}$	-	1.5	V

ELECTRICAL CHARACTERISTICS @ 25°C unless otherwise noted

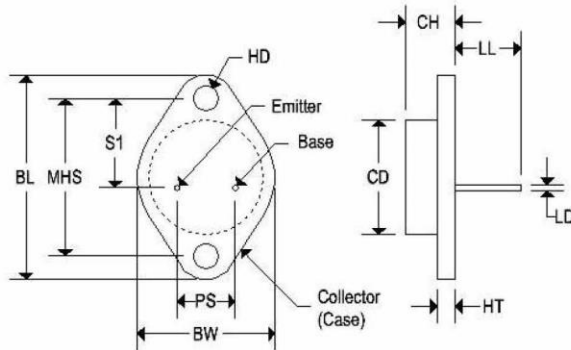
Characteristics	Symbol	Min	Max	Unit
Base-Emitter Saturation Voltage $I_C = 25A, I_B = 6.25A$	$V_{BE(ON)}$	-	2.5	V
Current Gain – Bandwidth Product⁽²⁾ $I_C = 1.0A, V_{CE} = 4.0V, f_{test} = 1.0MHz$	f_T	4.0	-	MHz
Small Signal Current Gain $I_C = 3A, V_{CE} = 4.0V, f = 1KHz$	h_{fe}	20	-	-

Note 1: Pulse width = 350 μ s, duty cycle \leq 0.02

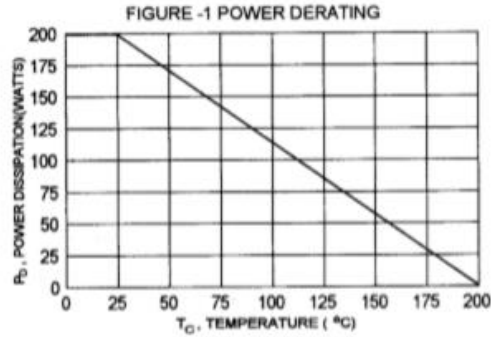
Note 2: $f_T = |h_{fe}| \cdot f_{test}$

MECHANICAL CHARACTERISTICS

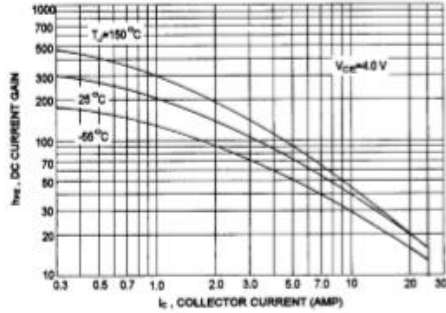
Case	TO-3
Marking	Alpha-numeric
Pin out	See below



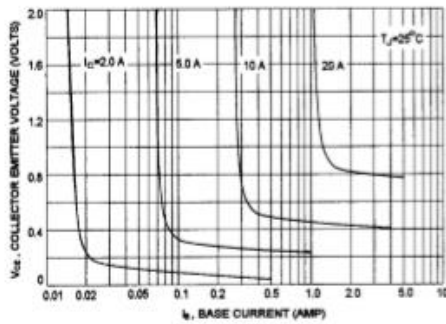
	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150



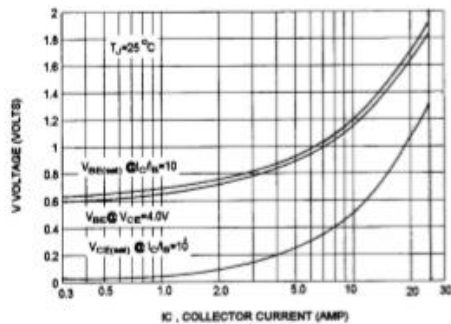
PNP 2N5883,2N5884
DC CURRENT GAIN



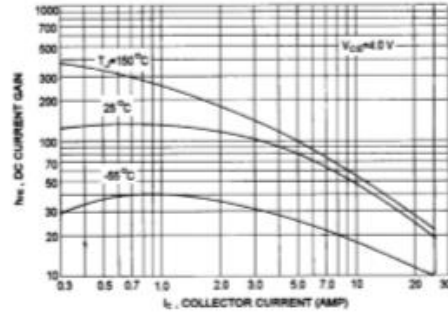
COLLECTOR SATURATION REGION



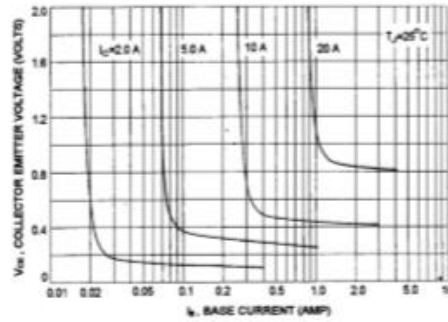
"ON" VOLTAGES



NPN 2N5885,2N5886
DC CURRENT GAIN



COLLECTOR SATURATION REGION



"ON" VOLTAGES

