NPN 2N3583 – 2N3584 – 2N3585

NPN SILICON POWER TRANSISTORS.

The 2N3583 2N3584 2N3585 are mounted in Jedec TO-66 metal case.
They are designed for high-speed switching and linear amplifier application for high-voltage operational amplifiers, switching regulators, converters,deflection stages and high fidelity amplifiers.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CBO}	Collector-Base Voltage (I_E= 0)	2N3583	250	V
		2N3584	330	
		2N3585	440	
V_{CEO}	Collector-Emitter Voltage (I_B= 0)	2N3583	175	V
		2N3584	250	
		2N3585	300	
V_{EBO}	Emitter-Base Voltage (I_C= 0)		6	V
I_C	Collector Current	2N3583	1	A
		2N3584	2	
		2N3585	2	
I_{CM}	Peak Collector Current	t_p = 10ms	5	A
I_B	Base current		1	A
P_T	Total power Dissipation	@ T_{mb} = 70°C	35	W
T_J	Junction Temperature		200	°C
T_{Stg}	Storage Temperature		-65 to +200	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	5	°C/W
R_{thJA}	Thermal Resistance, Junction to ambient in free air	87.5	

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CEO}	Collector-Emitter cut-off current	I_B = 0 ; V_{CE} = 150 V	2N3583	-	-	10	mA
			2N3584	-	-	5	
			2N3585	-	-	5	
I_{CEX}	Collector-Emitter cut-off current	V_{BE} = -1.5V ; V_{CE} = 225 V	2N3583			1	
		V_{BE} = -1.5V ; V_{CE} = 340 V	2N3584				
		V_{BE} = -1.5V ; V_{CE} = 450 V	2N3585				
		V_{BE} = -1.5V ; V_{CE} = 225 V T_j= 150°C	2N3583	-	-	3	
		V_{BE} = -1.5V ; V_{CE} = 300 V T_j= 150°C	2N3584				
			2N3585				
I_{EBO}	Emitter cut-offcurrent	I_C = 0 ; V_{EB} = 6 V	2N3583	-	-	5	
			2N3584	-	-	0.5	
			2N3585	-	-	0.5	
$V_{CEO(SUS)}$	Collector-Emitter sustaning Voltage (*)	I_B = 0 ; I_C = 200 mA	2N3583	175	-	-	V
			2N3584	250	-	-	
			2N3585	300	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C = 1 A ; I_B = 125 mA	2N3583	-	-	5	V
			2N3584	-	-	0.75	
			2N3585	-	-	0.75	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	I_C = 1 A ; I_B = 100 mA	2N3583	-	-	1.4	
			2N3584				
			2N3585				
h_{FE}	DC Current Gain (*)	V_{CE} = 10 V ; I_C = 500 mA	2N3583	40	-	200	
		V_{CE} = 10 V ; I_C = 1 A	2N3583	10	-	-	
			2N3584	25	-	100	
			2N3585	25	-	100	
		V_{CE} = 2 V ; I_C = 1 A	2N3584	8	-	80	
			2N3585	8	-	80	
$I_{S/B}$	Second Breakdown Collector current	V_{CE} = 100 V ; t = 1 s	2N3583	350	-	-	mA
			2N3584				
			2N3585				
f_T	Transition frequency	V_{CE} = 10 V ; I_C = 200 mA f = 5 MHz	2N3583	10	-	-	MHz
			2N3584				
			2N3585				
t_d+t_r	Turn-on-time	I_C = 1 A ; I_B = 100 mA	2N3584	-	-	3	µs
			2N3585				
t_f	Fall time	I_C = 1 A ; I_B = 100 mA	2N3584	-	-	3	
			2N3585				
t_s	Carrier storage time	I_C = 1 A ; I_B = 100 mA	2N3584	-	-	4	
			2N3585				

(*) Measured under pulse conditions :t_P <300µs, δ <2%.

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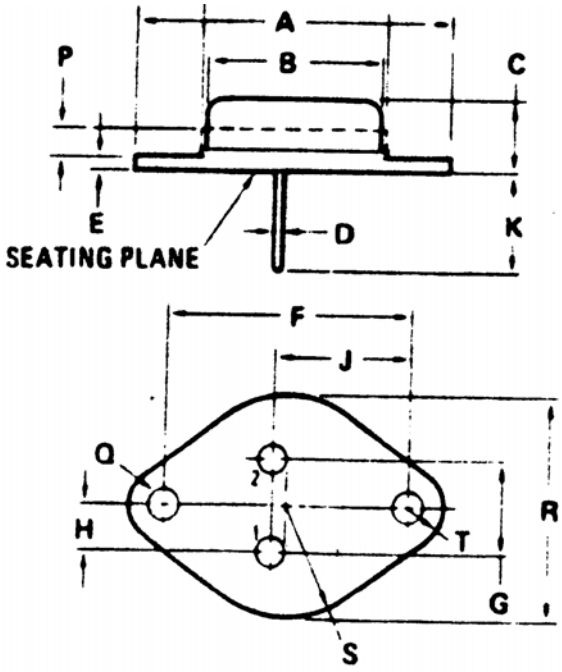
MECHANICAL DATA CASE TO-66

DIMENSIONS		
	mm	
	min	max
A	30.60	32.52
B	11.94	12.7
C	6.35	8.63
D	0.712	0.863
E	1.27	1.91
F	24.28	24.50
G	4.83	5.33
H	2.41	2.67
J	14.48	14.99
K	9.15	10.50
P	-	2.7
Q	3.60	4.00
S	-	8.89
T	-	3.68



Pin 1 :	Emitter
Pin 2 :	Base
Case :	Collector

Revised September 2012