



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	@ $T_{mb} = 70^\circ C$	35	W	
T_J	Junction Temperature		200	$^\circ C$	
T_{Stg}	Storage Temperature		-65 to +200	$^\circ C$	

THERMAL CHARACTERISTICS

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

NPN 2N3583 – 2N3584 – 2N3585

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

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

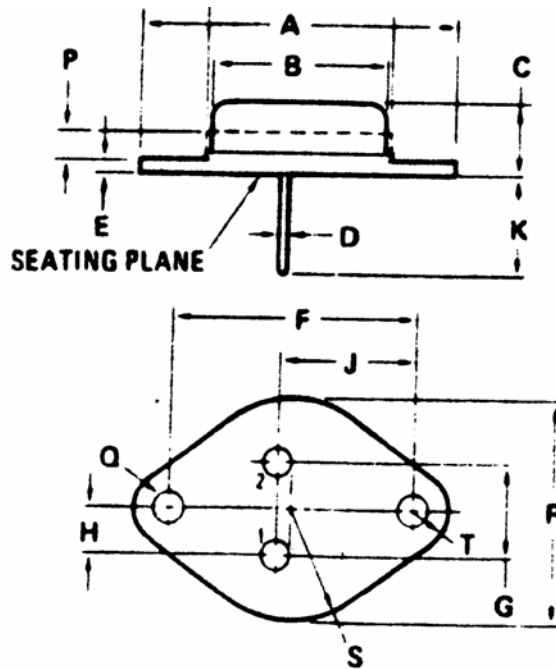
(*) Measured under pulse conditions : $t_p < 300 \mu\text{s}$, $\delta < 2\%$.

NPN 2N3583 – 2N3584 – 2N3585

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

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.