

2N3583
2N3584
2N3585

SILICON
NPN TRANSISTORS



TO-66 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N3583 series devices are silicon NPN transistors designed for high speed switching and high voltage amplifier applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	2N3583	2N3584	2N3585	UNITS
V_{CBO}	250	375	500	V
V_{CEO}	175	250	300	V
V_{EBO}	6.0	6.0	6.0	V
I_C	1.0	2.0	2.0	A
I_{CM}		5.0		A
I_B		1.0		A
P_D		35		W
T_J, T_{stg}		-65 to +200		$^\circ\text{C}$
θ_{JC}		5.0		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3583		2N3584		2N3585		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CEV}	$V_{CE}=225\text{V}, V_{EB}=1.5\text{V}$	-	1.0	-	-	-	-	mA
I_{CEV}	$V_{CE}=340\text{V}, V_{EB}=1.5\text{V}$	-	-	-	1.0	-	-	mA
I_{CEV}	$V_{CE}=450\text{V}, V_{EB}=1.5\text{V}$	-	-	-	-	-	1.0	mA
I_{CEV}	$V_{CE}=225\text{V}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$	-	3.0	-	-	-	-	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{EB}=1.5\text{V}, T_C=150^\circ\text{C}$	-	-	-	3.0	-	3.0	mA
I_{CEO}	$V_{CE}=150\text{V}$	-	10	-	5.0	-	5.0	mA
I_{EBO}	$V_{BE}=6.0\text{V}$	-	5.0	-	0.5	-	0.5	mA
BV_{CEO}	$I_C=200\text{mA}$	175	-	250	-	300	-	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=125\text{mA}$	-	5.0	-	0.75	-	0.75	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$	-	-	-	1.4	-	1.4	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	-	1.4	-	1.4	-	1.4	V
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40	-	40	-	40	-	
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	40	200	-	-	-	-	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$	-	-	8.0	80	8.0	80	
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{A}$	10	-	25	100	25	100	
f_T	$V_{CE}=10\text{V}, I_C=200\text{mA}, f=5.0\text{MHz}$	10	-	10	-	10	-	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	120	-	120	-	120	pF
h_{fe}	$V_{CE}=30\text{V}, I_C=100\text{mA}, f=1.0\text{kHz}$	25	350	-	-	-	-	
t_r	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=100\text{mA}, R_L=200\Omega$	-	-	-	3.0	-	3.0	μs
t_s	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$	-	-	-	4.0	-	4.0	μs
t_f	$V_{CC}=200\text{V}, I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$	-	-	-	3.0	-	3.0	μs
$I_{S/b}$	$V_{CE}=100\text{V}$	350	-	350	-	350	-	mA

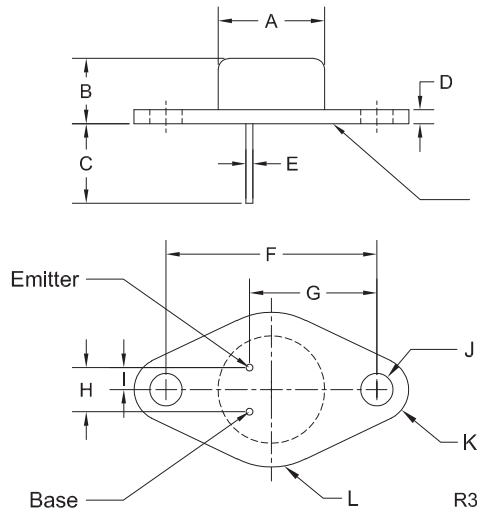
R3 (2-September 2014)

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TO-66 CASE - MECHANICAL OUTLINE



MARKING:
 FULL PART NUMBER

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.470	0.500	11.94	12.70
B	0.250	0.340	6.35	8.64
C	0.360	-	9.14	-
D	0.050	0.075	1.27	1.91
E (DIA)	0.028	0.034	0.71	0.86
F	0.956	0.964	24.28	24.48
G	0.570	0.590	14.48	14.99
H	0.190	0.210	4.83	5.33
I	0.093	0.107	2.36	2.72
J (DIA)	0.142	0.152	3.61	3.86
K (RAD)	0.141		3.58	
L (RAD)	0.345		8.76	

TO-66 (REV:R3)

R3 (2-September 2014)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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