2N3583
2N3584
2N3585

SILICON
NPN TRANSISTORS

Central™
Semiconductor Corp.

TO-66 CASE

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°C)

	SYMBOL	2N3583	2N3584	2N3585	UNITS
Collector-Base Voltage	V_{CBO}	250	375	500	V
Collector-Emitter Voltage	V_{CEO}	175	250	300	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	6.0	V
Continuous Collector Current	I_C	1.0	2.0	2.0	A
Peak Collector Current	I_{CM}		5.0		A
Continuous Base Current	I_B		1.0		A
Power Dissipation	P_D		35		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200		°C
Thermal Resistance	Θ_{JC}		5.0		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

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

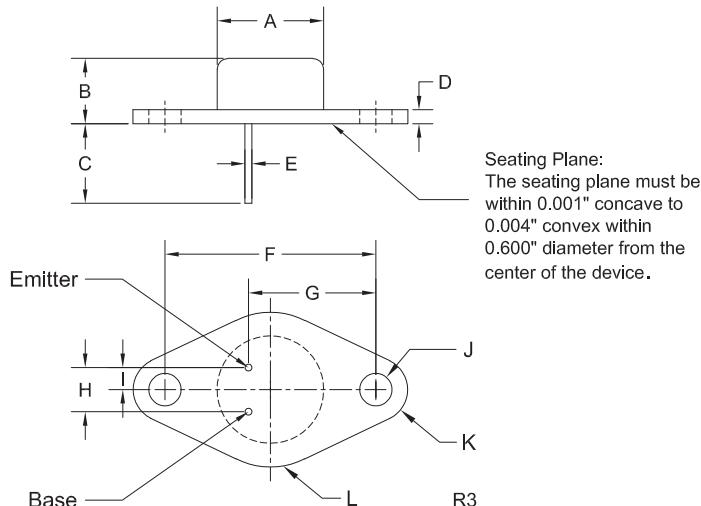| 2N3583 |
| 2N3584 |
| 2N3585 |
| |
| SILICON |
| NPN TRANSISTORS |

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TO-66 CASE - MECHANICAL OUTLINE

Seating Plane:
The seating plane must be within 0.001" concave to 0.004" convex within 0.600" diameter from the center of the device.

Emitter

Base

R3

MARKING:
FULL PART NUMBER

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

Central
Semiconductor Corp.™

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).

CONTACT US

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