Central™
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Manufacturers of World Class Discrete Semiconductors

2N5781 PNP
2N5784 NPN

COMPLEMENTARY SILICON POWER TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5781, 2N5784 types are Complementary Silicon Power Transistors designed for general purpose switching and amplifier applications.

MAXIMUM RATINGS (T_C=25°C)

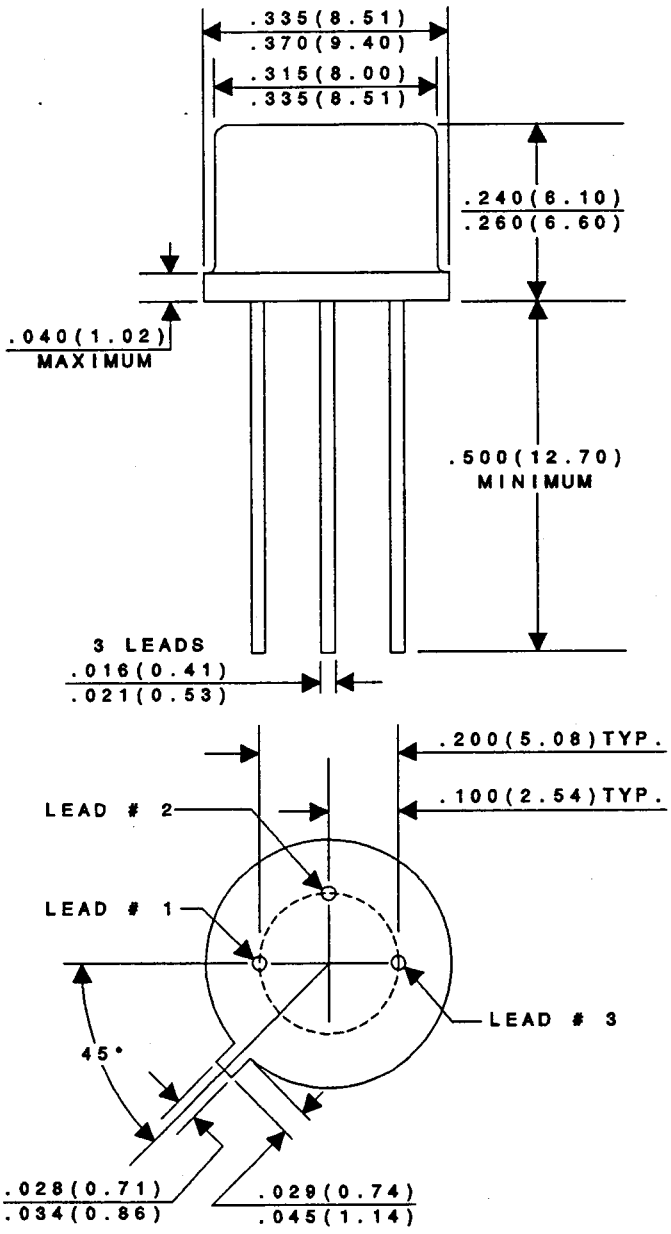
	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CER}	80	V
Collector-Emitter Voltage	V_{CEO}	65	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	3.5	A
Base Current	I_B	1.0	A
Power Dissipation	P_D	10	W
Power Dissipation (T_A=25°C)	P_D	1.0	W
Operating and Storage Junction Temperature	T_J,T_{stg}	-65 to +200	°C
Thermal Resistance	Θ_{JC}	17.5	°C/W
Thermal Resistance	Θ_{JA}	175	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEV}	V_{CE}=75V, $V_{BE(off)}$=1.5V		10	μA
I_{CEV}	V_{CE}=75V, $V_{BE(off)}$=1.5V, T_C=150°C		1.0	mA
I_{CER}	V_{CE}=65V, R_{BE}=100Ω		10	μA
I_{CER}	V_{CE}=65V, R_{BE}=100Ω, T_C=150°C		1.0	mA
I_{CEO}	V_{CE}=50V		100	μA
I_{EBO}	V_{EB}=5.0V		10	μA
BV_{CER}	I_C=10mA, R_{BE}=100Ω	80		V
BV_{CEO}	I_C=10mA	65		V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		0.5	V
$V_{BE(ON)}$	V_{CE}=2.0V, I_C=1.0A		1.5	V
h_{FE}	V_{CE}=2.0V, I_C=1.0A	20	100	
h_{FE}	V_{CE}=2.0V, I_C=3.2A	4.0		
f_T	V_{CE}=2.0V, I_C=100mA, f=4.0MHz (2N5781)	8.0	60	MHz
f_T	V_{CE}=2.0V, I_C=100mA, f=200kHz (2N5784)	1.0	4.0	MHz
h_{fe}	V_{CE}=2.0V, I_C=100mA, f=1.0kHz	25		
t_{ON}	V_{CC}=30V, I_C=1.0A, I_{B1}=I_{B2}=100mA (2N5781)		0.5	μs
t_{ON}	V_{CC}=30V, I_C=1.0A, I_{B1}=I_{B2}=100mA (2N5784)		5.0	μs
t_{OFF}	V_{CC}=30V, I_C=1.0A, I_{B1}=I_{B2}=100mA (2N5781)		2.5	μs
t_{OFF}	V_{CC}=30V, I_C=1.0A, I_{B1}=I_{B2}=100mA (2N5784)		15	μs

(SEE REVERSE SIDE)

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

1. Emitter
2. Base
3. Collector

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