

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N6576  
2N6577  
2N6578

NPN SILICON POWER  
DARLINGTON TRANSISTOR

JEDEC TO-3 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6576 series types are NPN Silicon Power Darlington Transistors designed for general purpose switching applications.

## MAXIMUM RATINGS (T<sub>C</sub>=25°C)

	SYMBOL	2N6576	2N6577	2N6578	UNITS
Collector-Base Voltage	V <sub>CBO</sub>	60	90	120	V
Collector-Emitter Voltage	V <sub>CEO</sub>	60	90	120	V
Emitter-Base Voltage	V <sub>EBO</sub>		7.0		V
Continuous Collector Current	I <sub>C</sub>		15		A
Peak Collector Current	I <sub>CM</sub>		30		A
Continuous Base Current	I <sub>B</sub>		250		mA
Peak Base Current	I <sub>BM</sub>		500		mA
Continuous Emitter Current	I <sub>E</sub>		15.25		A
Peak Emitter Current	I <sub>EM</sub>		30.50		A
Power Dissipation	P <sub>D</sub>		120		W
Operating and Storage					
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>		-65 to +200		°C
Thermal Resistance	θ <sub>JC</sub>		1.46		°C/W

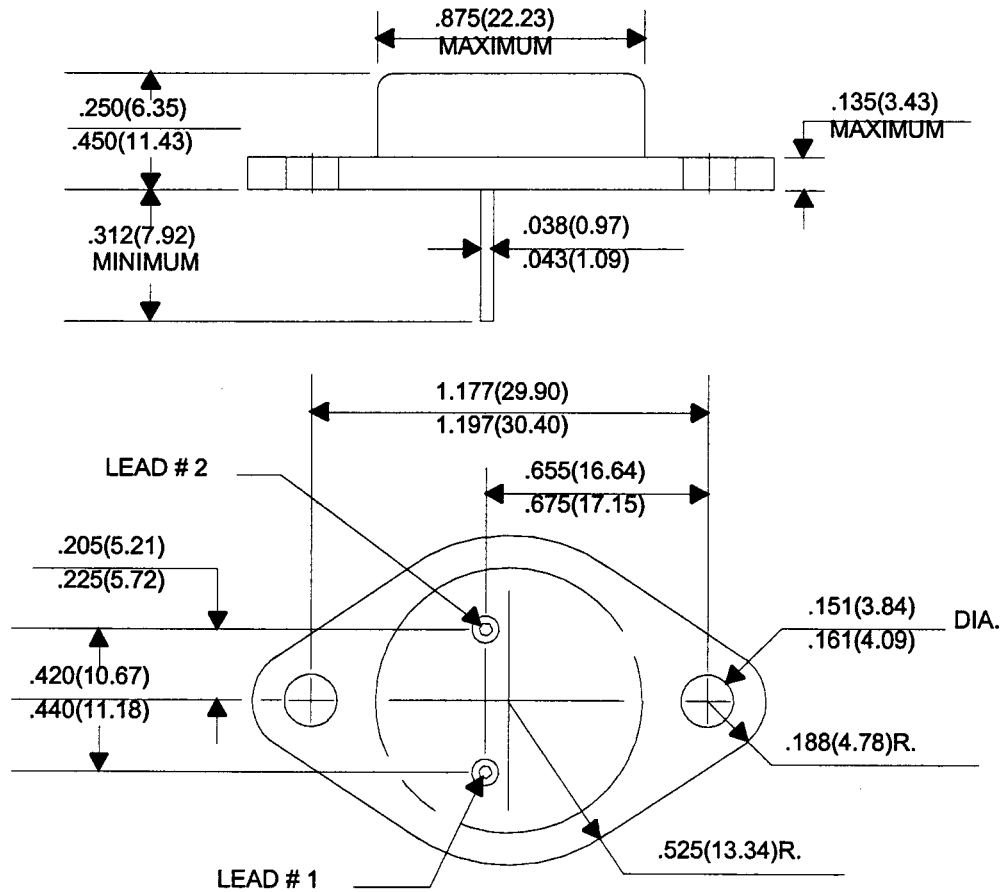
## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =Rated V <sub>CBO</sub>		500	μA
I <sub>CEV</sub>	V <sub>CEV</sub> =Rated V <sub>CEO</sub> , V <sub>BE(off)</sub> =1.5V		5.0	mA
I <sub>CER</sub>	V <sub>CER</sub> = Rated V <sub>CEO</sub> , R <sub>BE</sub> =10kΩ, T <sub>C</sub> =150°C		5.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> = Rated V <sub>CEO</sub>		1.0	mA
BV <sub>CEO</sub>	I <sub>C</sub> =200mA (2N6576)	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =200mA (2N6577)	90		V
BV <sub>CEO</sub>	I <sub>C</sub> =200mA (2N6578)	120		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10A, I <sub>B</sub> =100mA		2.8	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =15A, I <sub>B</sub> =150mA		4.0	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =10A, I <sub>B</sub> =100mA		3.5	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =15A, I <sub>B</sub> =150mA		4.5	V
h <sub>FE</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =400mA	200		
h <sub>FE</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =4.0A	2000	20000	
h <sub>FE</sub>	V <sub>CE</sub> =3.0V, I <sub>C</sub> =10A	500	5000	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =15A	100		

**ELECTRICAL CHARACTERISTICS (CONTINUED)**

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$V_F$	$I_{EC}=15A$		4.5	V
$ h_{hel} $	$V_{CE}=3.0V, I_C=3.0A, f=1.0MHz$	10	200	
$t_d$	$V_{CC}=30V, I_C=10A, I_{B1}=100mA$		0.15	$\mu s$
$t_r$	$V_{CC}=30V, I_C=10A, I_{B1}=100mA$		1.0	$\mu s$
$t_s$	$V_{CC}=30V, I_C=10A, I_{B1}=I_{B2}=100mA$		2.0	$\mu s$
$t_f$	$V_{CC}=30V, I_C=10A, I_{B1}=I_{B2}=100mA$		7.0	$\mu s$

**TO-3 CASE - MECHANICAL OUTLINE**



All Dimensions in Inches (mm).

Lead Code:

- 1) Base
- 2) Emitter
- Case) Collector

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