

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

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Manufacturers of World Class Discrete Semiconductors

2N6249  
2N6250  
2N6251

NPN SILICON TRANSISTOR

JEDEC TO-3 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6249, 2N6250, 2N6251 types are Silicon NPN Triple Diffused Mesa Transistors designed for high voltage, high current, high speed switching applications.

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

	SYMBOL	2N6249	2N6250	2N6251	UNITS
Collector-Base Voltage	V <sub>CBO</sub>	300	375	450	V
Collector-Emitter Voltage	V <sub>CEO</sub>	200	275	350	V
Collector-Emitter Voltage	V <sub>CEV</sub>	225	300	375	V
Collector-Emitter Voltage	V <sub>CER</sub>	225	300	375	V
Emitter-Base Voltage	V <sub>EBO</sub>		6		V
Collector Current	I <sub>C</sub>		10		A
Collector Current (Peak)	I <sub>CM</sub>		30		A
Base Current	I <sub>B</sub>		10		A
Power Dissipation	P <sub>D</sub>		175		W
Operating and Storage					
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>		-65 to +200		°C
Thermal Resistance	Θ <sub>JA</sub>		1.0		°C/W

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

SYMBOL	TEST CONDITIONS	2N6249		2N6250		2N6251		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I <sub>CEV</sub>	V <sub>CE</sub> = Rated V <sub>CEV</sub> , V <sub>BE</sub> = -1.5V		5.0		5.0		5.0	mA
I <sub>CEV</sub>	V <sub>CE</sub> = Rated V <sub>CEV</sub> , V <sub>BE</sub> = -1.5, T <sub>C</sub> = 125°C		10		10		10	mA
I <sub>CEO</sub>	V <sub>CE</sub> = 150V		5.0		-		-	mA
I <sub>CEO</sub>	V <sub>CE</sub> = 225V		-		5.0		-	mA
I <sub>CEO</sub>	V <sub>CE</sub> = 300V		-		-		5.0	mA
I <sub>EBO</sub>	V <sub>BE</sub> = -6.0V		1.0		1.0		1.0	mA
BV <sub>CEO</sub>	I <sub>C</sub> = 200mA		200		275		350	V
BV <sub>CER</sub>	I <sub>C</sub> = 200mA, R <sub>BE</sub> = 50 Ω		225		300		375	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.0A		1.5		-		-	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.25A		-		1.5		-	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.67A		-		-		1.5	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.0A		2.25		-		-	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.25A		-		2.25		-	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> = 10A, I <sub>B</sub> = 1.67A		-		-		2.25	V
h <sub>FE</sub>	V <sub>CE</sub> = 3.0V, I <sub>C</sub> = 10A	10	50	8	50	6	50	

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N6249		2N6250		2N6251		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
$f_T$	$V_{CE} = 10V, I_C = 1A, f = 1MHz$	2.5		2.5		2.5		MHz
$I_{S/b}$	$V_{CE} = 30V, t = 1.0S$	5.8		5.8		5.8		A
$E_{S/b}$	$V_{BE} = 4.0V, I_C = 10A, R_B = 50\Omega, L = 50\mu H$	2.5		2.5		2.5		mJ
$t_r$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.0A$		2.0		-		-	us
$t_r$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.25A$		-		2.0		-	us
$t_r$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.67A$		-		-		2.0	us
$t_s$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.0A$		3.5		-		-	us
$t_s$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.25A$		-		3.5		-	us
$t_s$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.67A$		-		-		3.5	us
$t_f$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.0A$		1.0		-		-	us
$t_f$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.25A$		-		1.0		-	us
$t_f$	$V_{CC} = 200V, I_C = 10A, I_{B1} = -I_{B2} = 1.67A$		-		-		1.0	us

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