

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

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Manufacturers of World Class Discrete Semiconductors

MPS-A42 MPS-A43 NPN

SILICON HIGH VOLTAGE TRANSISTORS

JEDEC T0-92 Case

## DESCRIPTION

The CENTRAL SEMICONDUCTOR MPS-A42 Series types are NPN Molded Epoxy Small Signal Silicon Transistors designed for high voltage applications.

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

	SYMBOL	MPS-A42	MPS-A43	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	300	200	V
Collector-Emitter Voltage	V <sub>CEO</sub>	300	200	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	6.0	V
Power Dissipation	P <sub>D</sub>	625	625	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 TO +150		°C
Collector Current	I <sub>C</sub>	500		mA
Thermal Resistance	θ <sub>JA</sub>	.200		°C/mW

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

SYMBOL	TEST CONDITIONS	MPS-A42		MPS-A43		UNIT
		MIN	MAX	MIN	MAX	
I <sub>CB0</sub>	V <sub>CB</sub> =200V		0.1	-		μA
I <sub>CB0</sub>	V <sub>CB</sub> =160V		-	0.1		μA
I <sub>EBO</sub>	V <sub>BE</sub> =6.0V		0.1	-		μA
I <sub>EBO</sub>	V <sub>BE</sub> =4.0V		-	0.1		μA
BV <sub>CB0</sub>	I <sub>C</sub> =100μA	300		200		V
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	300		200		V
BV <sub>EBO</sub>	I <sub>C</sub> =100μA	6.0		6.0		V
V <sub>CE</sub> (SAT)	I <sub>C</sub> =20mA, I <sub>B</sub> =2.0mA		0.5		0.4	V
V <sub>BE</sub> (SAT)	I <sub>C</sub> =20mA, I <sub>B</sub> =2.0mA		0.9		0.9	V
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA	25		25		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	40		40		
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =30mA	40	-	50	200	
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =10mA, f=100MHz	50		50		MHz
C <sub>ob</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0, f=1.0MHz		3.0		4.0	pF