TIP42 TIP42A TIP42B TIP42C

# PNP SILICON POWER TRANSISTOR



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# **DESCRIPTION:**

The CENTRAL SEMICONDUCTOR TIP42 SERIES types are PNP Epitaxial-Base Silicon Power Transistors designed for power amplifier and high speed switching applications.

MARKING: FULL PART NUMBER



MAXIMUM RATINGS: (T <sub>C</sub> =25°C) Collector-Base Voltage	SYMBOL 1	<b>TIP42</b> 40	<b>TIP42A</b> 60	<b>TIP42B</b> 80	<b>TIP42C</b> 100	UNITS V
Collector-Emitter Voltage	$V_{CEO}$	40	60	80	100	V
Emitter-Base Voltage	$V_{EBO}$		5.	0		V
Continuous Collector Current	IC		6.	0		Α
Peak Collector Current	I <sub>CM</sub>		1	0		Α
Continuous Base Current	ΙΒ		2.	0		Α
Power Dissipation	$P_{D}$		6	5		W
Power Dissipation (T <sub>A</sub> =25°C)	$P_{D}$		2.	0		W
Operating and Storage Junction Temperature	T <sub>I</sub> , T <sub>sta</sub>		-65 to	+150		°C

Operating and	d Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to	+150	°C
ELECTRICAL	CHARACTERISTICS: (T <sub>C</sub> =25°C u	ınless otherwise n	oted)		
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
ICEO	V <sub>CE</sub> =30V (TIP42, TIP42A)			0.7	mA
ICEO	V <sub>CE</sub> =60V (TIP42B, TIP42C)			0.7	mA
ICES	V <sub>CE</sub> =Rated V <sub>CEO</sub>			0.4	mA
I <sub>EBO</sub>	V <sub>EB</sub> =5.0V			1.0	mA
BV <sub>CEO</sub>	I <sub>C</sub> =30mA (TIP42)	40			V
BVCEO	I <sub>C</sub> =30mA (TIP42A)	60			V
BV <sub>CEO</sub>	I <sub>C</sub> =30mA (TIP42B)	80			V
<b>BV</b> CEO	I <sub>C</sub> =30mA (TIP42C)	100			V
VCE(SAT)	I <sub>C</sub> =6.0A, I <sub>B</sub> =0.6A			1.5	V
V <sub>BE(ON)</sub>	$V_{CE}$ =4.0V, $I_{C}$ =6.0A			2.0	V
h <sub>FE</sub>	$V_{CE}$ =4.0V, $I_{C}$ =0.3A	30			
hFE	$V_{CE}$ =4.0V, $I_{C}$ =3.0A	15		75	
h <sub>fe</sub>	$V_{CE}$ =10V, $I_{C}$ =0.5A, f=1.0kHz	20			
$f_{T}$	$V_{CE}$ =10V, $I_{C}$ =0.5A, f=1.0MHz	3.0			MHz
ton	$I_C$ =6.0A, $I_{B1}$ = $I_{B2}$ =0.6A, $R_L$ =5.0 $\Omega$		0.4		μs
<sup>t</sup> off	$I_C$ =6.0A, $I_{B1}$ = $I_{B2}$ =0.6A, $R_L$ =5.0 $\Omega$		0.7		μs

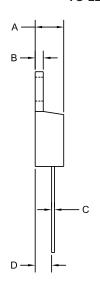
R2 (22-July 2014)

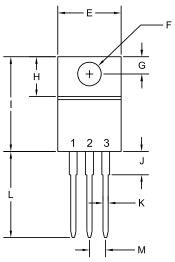
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# PNP SILICON POWER TRANSISTOR



#### **TO-220 CASE - MECHANICAL OUTLINE**





R2

#### LEAD CODE:

- 1) Base
- 2) Collector
- 3) Emitter
- Tab) Collector

### MARKING:

**FULL PART NUMBER** 

DIMENSIONS						
	INCHES		MILLIMETERS			
SYMBOL	MIN	MAX	MIN	MAX		
Α	0.170	0.190	4.31	4.82		
В	0.045	0.055	1.15	1.39		
С	0.013	0.026	0.33	0.65		
D	0.083	0.107	2.10	2.72		
Е	0.394	0.417	10.01	10.60		
F (DIA)	0.140	0.157	3.55	4.00		
G	0.100	0.118	2.54	3.00		
Н	0.230	0.270	5.85	6.85		
	0.560	0.625	14.23	15.87		
J	-	0.250	-	6.35		
K	0.025	0.038	0.64	0.96		
L	0.500	0.579	12.70	14.70		
М	0.090	0.110	2.29	2.79		

TO-220 (REV: R2)



### **OUTSTANDING SUPPORT AND SUPERIOR SERVICES**

#### **PRODUCT SUPPORT**

Central's operations team provides the highest level of support to insure product is delivered on-time.

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- · Inventory bonding
- · Consolidated shipping options

- Custom bar coding for shipments
- · Custom product packing

#### **DESIGNER SUPPORT/SERVICES**

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- 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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