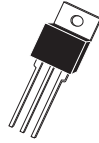


2N6040 2N6041 2N6042 PNP  
 2N6043 2N6044 2N6045 NPN

**COMPLEMENTARY SILICON POWER  
 DARLINGTON TRANSISTORS**



**TO-220 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N6040 and 2N6043 Series types are Complementary Silicon Power Transistors, manufactured by the epitaxial base process, designed for general purpose amplifier applications.

**MARKING: FULL PART NUMBER**

	SYMBOL	2N6040	2N6041	2N6042	UNITS
		2N6043	2N6044	2N6045	
MAXIMUM RATINGS: (T <sub>C</sub> =25°C)					
Collector-Base Voltage	V <sub>CBO</sub>	60	80	100	V
Collector-Emitter Voltage	V <sub>CEO</sub>	60	80	100	V
Emitter-Base Voltage	V <sub>EBO</sub>		5.0		V
Continuous Collector Current	I <sub>C</sub>		8.0		A
Peak Collector Current	I <sub>CM</sub>		16		A
Base Current	I <sub>B</sub>		120		mA
Power Dissipation	P <sub>D</sub>		75		W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>		-65 to +150		°C
Thermal Resistance	θ <sub>JC</sub>		1.67		°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
V <sub>CE(SAT)</sub>	I <sub>C</sub> =4.0A, I <sub>B</sub> =16mA (2N6040, 2N6041, 2N6043, 2N6044)		2.0	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =3.0A, I <sub>B</sub> =12mA (2N6042, 2N6045)		2.0	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =8.0A, I <sub>B</sub> =80mA		4.0	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =8.0A, I <sub>B</sub> =80mA		4.5	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =4.0A		2.8	V
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =4.0A (2N6040, 2N6041, 2N6043, 2N6044)	1,000	20,000	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =3.0A (2N6042, 2N6045)	1,000	20,000	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =8.0A	100		

R1 (16-November 2009)

2N6040 2N6041 2N6042 PNP  
 2N6043 2N6044 2N6045 NPN

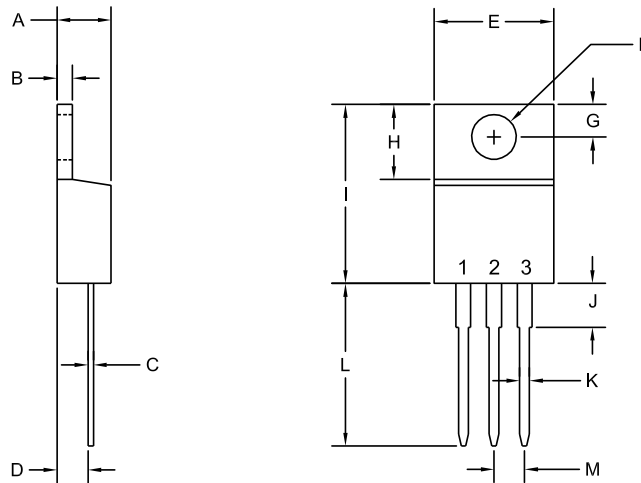


**COMPLEMENTARY SILICON POWER  
 DARLINGTON TRANSISTORS**

**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$h_{fe}$	$V_{CE}=4.0\text{V}$ , $I_C=3.0\text{A}$ , $f=1.0\text{kHz}$	300		
$f_T$	$V_{CE}=4.0\text{V}$ , $I_C=3.0\text{A}$ , $f=1.0\text{MHz}$	4.0		MHz
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=100\text{kHz}$ (NPN Types)		200	pF
$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=100\text{kHz}$ (PNP Types)		300	pF

**TO-220 CASE - MECHANICAL OUTLINE**



R2

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.31	4.82
B	0.045	0.055	1.15	1.39
C	0.013	0.026	0.33	0.65
D	0.083	0.107	2.10	2.72
E	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
H	0.230	0.270	5.85	6.85
I	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
M	0.090	0.110	2.29	2.79

TO-220 (REV: R2)

**LEAD CODE:**

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 4) COLLECTOR

**MARKING:**

FULL PART NUMBER

R1 (16-November 2009)