

CentralTM

Semiconductor Corp.

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 Manufacturer of World Class Discrete Semiconductors
www.centalsemi.com

2N6530
 2N6531
 2N6532
 2N6533

NPN POWER TRANSISTOR

TO-220 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N6530 Series are NPN silicon Darlington transistors designed for power applications requiring extremely high gain.

MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL	2N6530	2N6531	2N6532	2N6533	UNITS
Collector-Base Voltage	V_{CBO}	80	100	100	120	V
Collector-Emitter Voltage	V_{CER}	80	100	100	120	V
Collector-Emitter Voltage	V_{CEV}	80	100	100	120	V
Collector-Emitter Voltage	V_{CEO}	80	100	100	120	V
Emitter-Base Voltage	V_{EBO}			5.0		V
Continuous Collector Current	I_C			8.0		A
Peak Collector Current	I_{CM}			15		A
Power Dissipation	P_D			65		W
Operating and Storage						
Junction Temperature	T_J, T_{stg}		-65 to +150			$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}		1.92			$^{\circ}\text{C/W}$

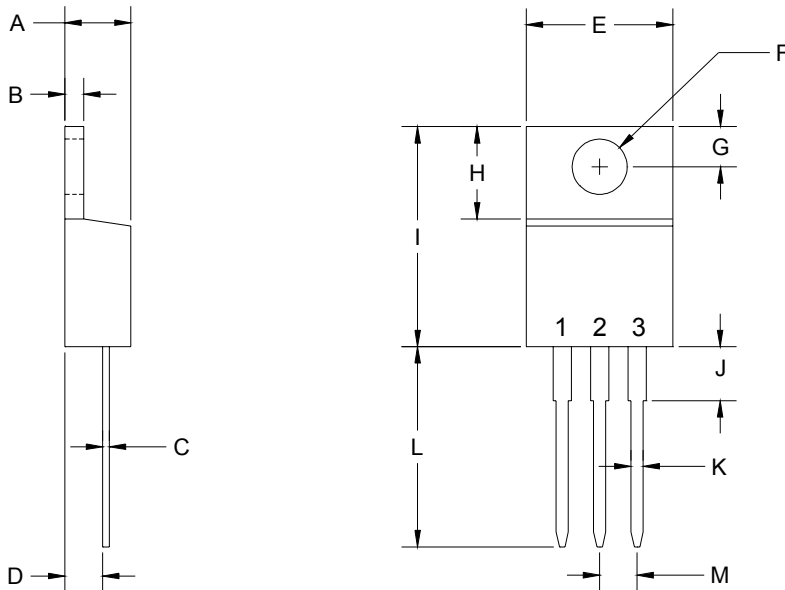
ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N6530		2N6531		2N6532		2N6533		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
I_{CEO}	$V_{CE}=\text{Rated } V_{CEO}$		1.0		1.0		1.0		1.0	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CEV},$ $V_{EB}=1.5\text{V}$		0.5		0.5		0.5		0.5	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CEV},$ $V_{EB}=5.0\text{V}, T_C=125^{\circ}\text{C}$		5.0		5.0		5.0		5.0	mA
I_{EBO}	$V_{EB}=5.0\text{V}$		5.0		5.0		5.0		5.0	mA
BV_{CER}	$I_C=200\text{mA}, R_{BE}=100\Omega$	80		100		100		120		V
BV_{CEO}	$I_C=200\text{mA}$	80		100		100		120		V
BV_{CEV}	$I_C=200\text{mA}, V_{EB}=1.5\text{V}$	80		100		100		120		V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=6.0\text{mA}$				3.0				2.0	V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=10\text{mA}$		2.0				2.0			V
$V_{CE(SAT)}$	$I_C=8.0\text{A}, I_B=80\text{mA}$		3.0		3.0		3.0		3.0	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}$				2.8				2.8	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=5.0\text{A}$		2.8				2.8			V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=8.0\text{A}$		4.5		4.5		4.5		4.5	V

(CONTINUED ON REVERSE SIDE)

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N6530		2N6531		2N6532		2N6533		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
h_{FE}	$V_{CE}=3.0V, I_C=3.0A$			500	10K			1K	10K	
h_{FE}	$V_{CE}=3.0V, I_C=5.0A$	1K	10K			1K	10K			
h_{FE}	$V_{CE}=3.0V, I_C=8.0A$	100	5K	100	5K	100	5K	100	5K	
V_F	$I_C=10A$		2.8		2.8		2.8		2.8	V
h_{fe}	$V_{CE}=5.0V, I_C=1.0A, f=1.0kHz$	1K		1K		1K		1K		
$ h_{fe} $	$V_{CE}=5.0V, I_C=1.0A, f=1.0MHz$	20		20		20		20		
C_{ob}	$V_{CB}=10V, I_E=0, f=1.0MHz$		200		200		200		200	pF
$I_{S/b}$	$V_{CE}=24V, t=0.5s$ nonrep.	2.7		2.7		2.7		2.7		A
$E_{S/b}$	$V_{EB}=1.5V, I_C=4.5A,$ $R_{BE}=100\Omega, L=12mH$	120		120		120		120		mJ

JEDEC TO-220 CASE - MECHANICAL OUTLINE

SYMBOL	DIMENSIONS		MIN	MAX
	INCHES	MILLIMETERS		
A	0.176	0.190	4.48	4.82
B	0.045	0.055	1.15	1.39
C	0.014	0.026	0.35	0.65
D	0.083	0.106	2.10	2.70
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: R1)

R1

Lead Code:

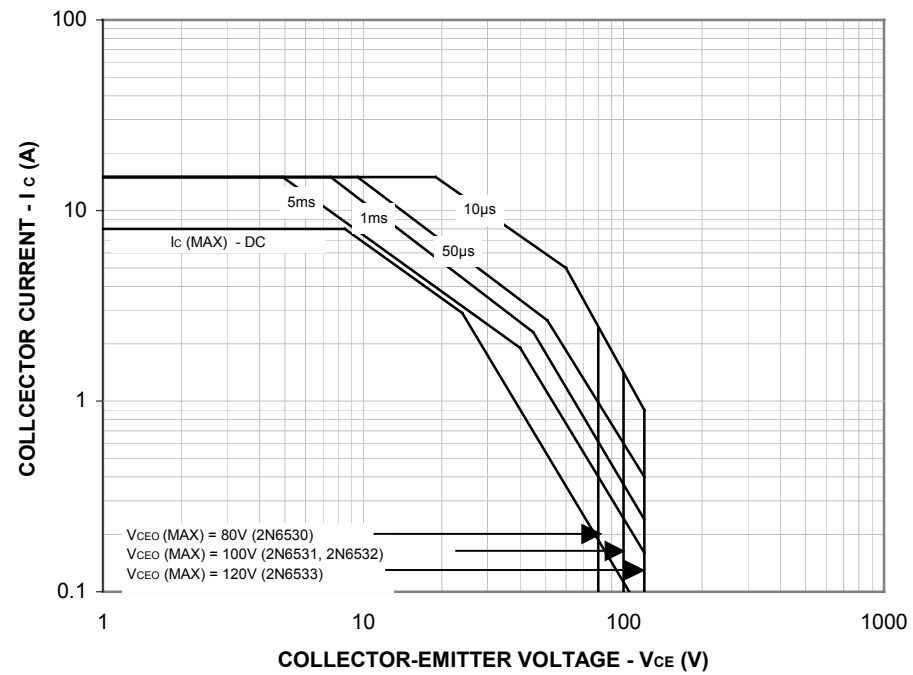
- 1) Base
- 2) Collector
- 3) Emitter

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SAFE OPERATING AREA ($T_c=25^\circ\text{C}$)

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