2N6050
2N6051
2N6052

PNP SILICON
DARLINGTON POWER
TRANSISTORS



TO-3 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N6050 series devices are PNP silicon Darlington power transistors, manufactured by the epitaxial base process, designed for high gain amplifier and switching applications. **Complementary NPN devices: 2N6057, 2N6058, 2N6059**.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C)	**SYMBOL**	**2N6050**	**2N6051**	**2N6052**	**UNITS**
Collector-Base Voltage	V_{CBO}	60	80	100	V
Collector-Emitter Voltage	V_{CEO}	60	80	100	V
Emitter-Base Voltage	V_{EBO}		5.0		V
Continuous Collector Current	I_C		12		A
Peak Collector Current	I_{CM}		20		A
Continuous Base Current	I_B		0.2		A
Power Dissipation	P_D		150		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200		°C
Thermal Resistance	Θ_{JC}		1.17		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

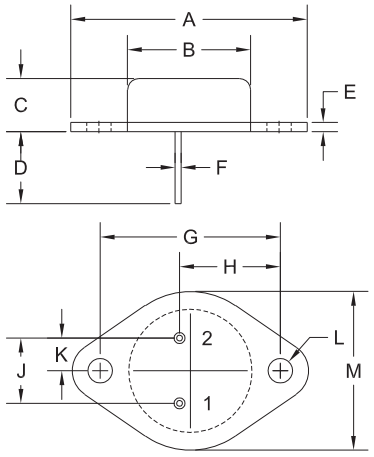
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{CEV}	V_{CE}=Rated V_{CEO}, V_{EB}=1.5V		0.5	mA
I_{CEV}	V_{CE}=Rated V_{CEO}, V_{EB}=1.5V, T_C=150°C		5.0	mA
I_{CEO}	V_{CE}=½Rated V_{CEO}		1.0	mA
I_{EBO}	V_{EB}=5.0V		2.0	mA
BV_{CEO}	I_C=100mA, (2N6050)	60		V
BV_{CEO}	I_C=100mA, (2N6051)	80		V
BV_{CEO}	I_C=100mA, (2N6052)	100		V
$V_{CE(SAT)}$	I_C=6.0A, I_B=24mA		2.0	V
$V_{CE(SAT)}$	I_C=12A, I_B=120mA		3.0	V
$V_{BE(SAT)}$	I_C=12A, I_B=120mA		4.0	V
$V_{BE(ON)}$	V_{CE}=3.0V, I_C=6.0A		2.8	V
h_{FE}	V_{CE}=3.0V, I_C=6.0A	750	18K	
h_{FE}	V_{CE}=3.0V, I_C=12A	100		
h_{fe}	V_{CE}=3.0V, I_C=5.0A, f=1.0kHz	300		
f_T	V_{CE}=3.0V, I_C=5.0A, f=1.0MHz	4.0		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		500	pF

R2 (28-October 2021)

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TO-3 CASE - MECHANICAL OUTLINE



R2

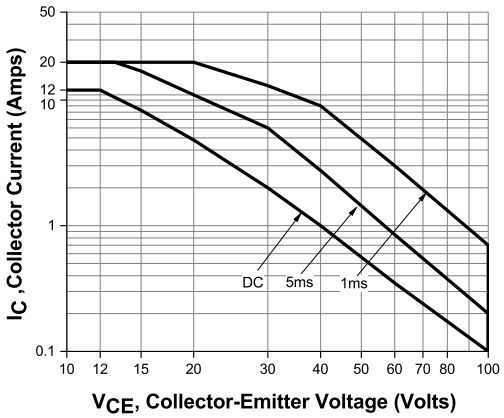
DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	1.516	1.573	38.50	39.96
B (DIA)	0.748	0.875	19.00	22.23
C	0.250	0.450	6.35	11.43
D	0.433	0.516	11.00	13.10
E	0.054	0.065	1.38	1.65
F	0.035	0.045	0.90	1.15
G	1.177	1.197	29.90	30.40
H	0.650	0.681	16.50	17.30
J	0.420	0.440	10.67	11.18
K	0.205	0.225	5.21	5.72
L (DIA)	0.151	0.172	3.84	4.36
M	0.984	1.050	25.00	26.67

TO-3 (REV: R2)

LEAD CODE:
1) Base
2) Emitter
Case) Collector

MARKING:
FULL PART NUMBER

Active-Region Safe Operating Area



R2 (28-October 2021)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT

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

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- 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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