MJE13008
MJE13009

SILICON NPN TRANSISTORS

TO-220 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MJE13008 and MJE13009 are silicon NPN transistors designed for high voltage, high speed switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C)	**SYMBOL**	**MJE13008**	**MJE13009**	**UNITS**
Collector-Emitter Voltage	V_{CEO}	300	400	V
Collector-Emitter Voltage	V_{CEV}	600	700	V
Emitter-Base Voltage	V_{EBO}	9.0		V
Continuous Collector Current	I_C	12		A
Peak Collector Current	I_{CM}	24		A
Continuous Base Current	I_B	6.0		A
Power Dissipation	P_D	100		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		°C
Thermal Resistance	Θ_{JC}	1.25		°C/W

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

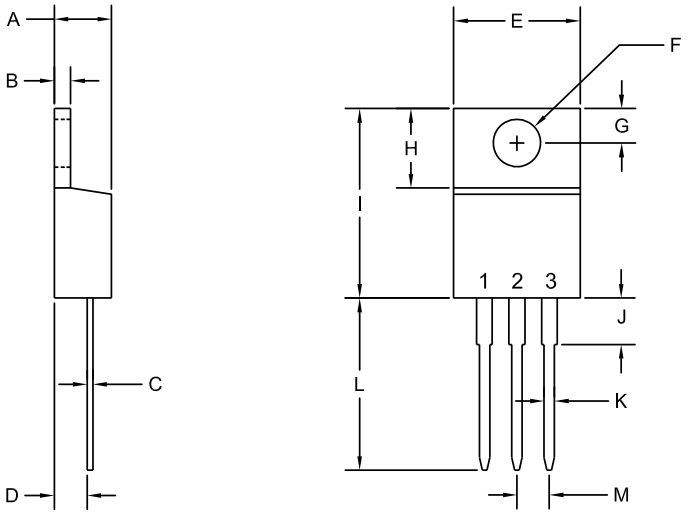
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{CEV}	V_{CE}=Rated V_{CEV}, $V_{BE(OFF)}$=1.5V			1.0	mA
I_{CEV}	V_{CE}=Rated V_{CEV}, $V_{BE(OFF)}$=1.5V, T_C=100°C			5.0	mA
I_{EBO}	V_{EB}=9.0V			1.0	mA
BV_{CEO}	I_C=10mA (MJE13008)	300			V
BV_{CEO}	I_C=10mA (MJE13009)	400			V
$V_{CE(SAT)}$	I_C=5.0A, I_B=1.0A			1.0	V
$V_{CE(SAT)}$	I_C=8.0A, I_B=1.6A			1.5	V
$V_{CE(SAT)}$	I_C=12A, I_B=3.0A			3.0	V
$V_{BE(SAT)}$	I_C=5.0A, I_B=1.0A			1.2	V
$V_{BE(SAT)}$	I_C=8.0A, I_B=1.6A			1.6	V
h_{FE}	V_{CE}=5.0V, I_C=5.0A	8.0		40	
h_{FE}	V_{CE}=5.0V, I_C=8.0A	6.0		30	
f_T	V_{CE}=10V, I_C=500mA, f=1.0MHz	4.0			MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		180		pF
t_d	V_{CC}=125V, I_C=8.0A, I_{B1}=I_{B2}=1.6A tp=25µs, Duty Cycle ≤ 1.0%			0.1	µs
t_r				1.0	µs
t_s				3.0	µs
t_f				0.7	µs

R1 (12-February 2015)

MJE13008
MJE13009

SILICON NPN TRANSISTORS

TO-220 CASE - MECHANICAL OUTLINE



R2

LEAD CODE:
1) Base
2) Collector
3) Emitter
Tab is common to pin 2

MARKING:
FULL PART NUMBER

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)

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

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors