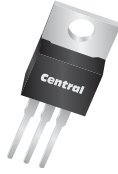


MJE13008
MJE13009

SILICON NPN TRANSISTORS



TO-220 CASE



www.centrasemi.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: ($T_C=25^\circ\text{C}$)

Collector-Emitter Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	MJE13008	MJE13009	UNITS
V_{CEO}	300	400	V
V_{CEV}	600	700	V
V_{EBO}		9.0	V
I_C		12	A
I_{CM}		24	A
I_B		6.0	A
P_D		100	W
T_J, T_{stg}		-65 to +150	$^\circ\text{C}$
θ_{JC}		1.25	$^\circ\text{C/W}$

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

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

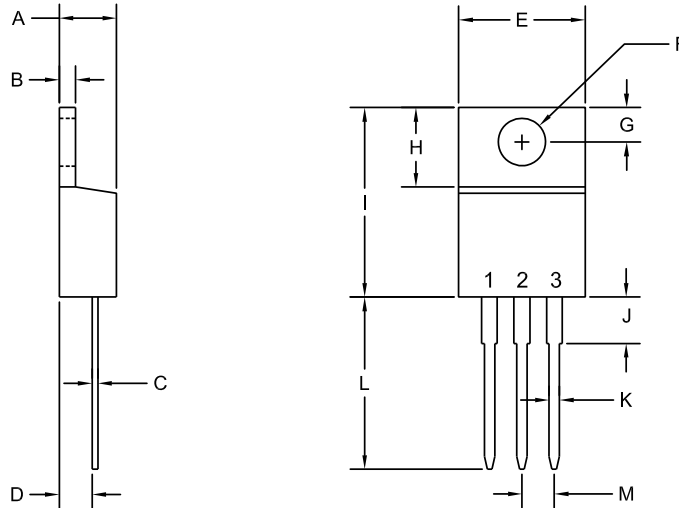
R1 (12-February 2015)

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				
SYMBOL	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)

R1 (12-February 2015)

MJE13008
MJE13009

SILICON NPN TRANSISTORS



SERVICES

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

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R1 (12-February 2015)