

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

MJE13007A

NPN SILICON
POWER TRANSISTOR

JEDEC TO-220 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR MJE13007A type is a Silicon NPN Power Transistor designed for high voltage, high speed switching applications.

MAXIMUM RATINGS (T_C = 25°C)

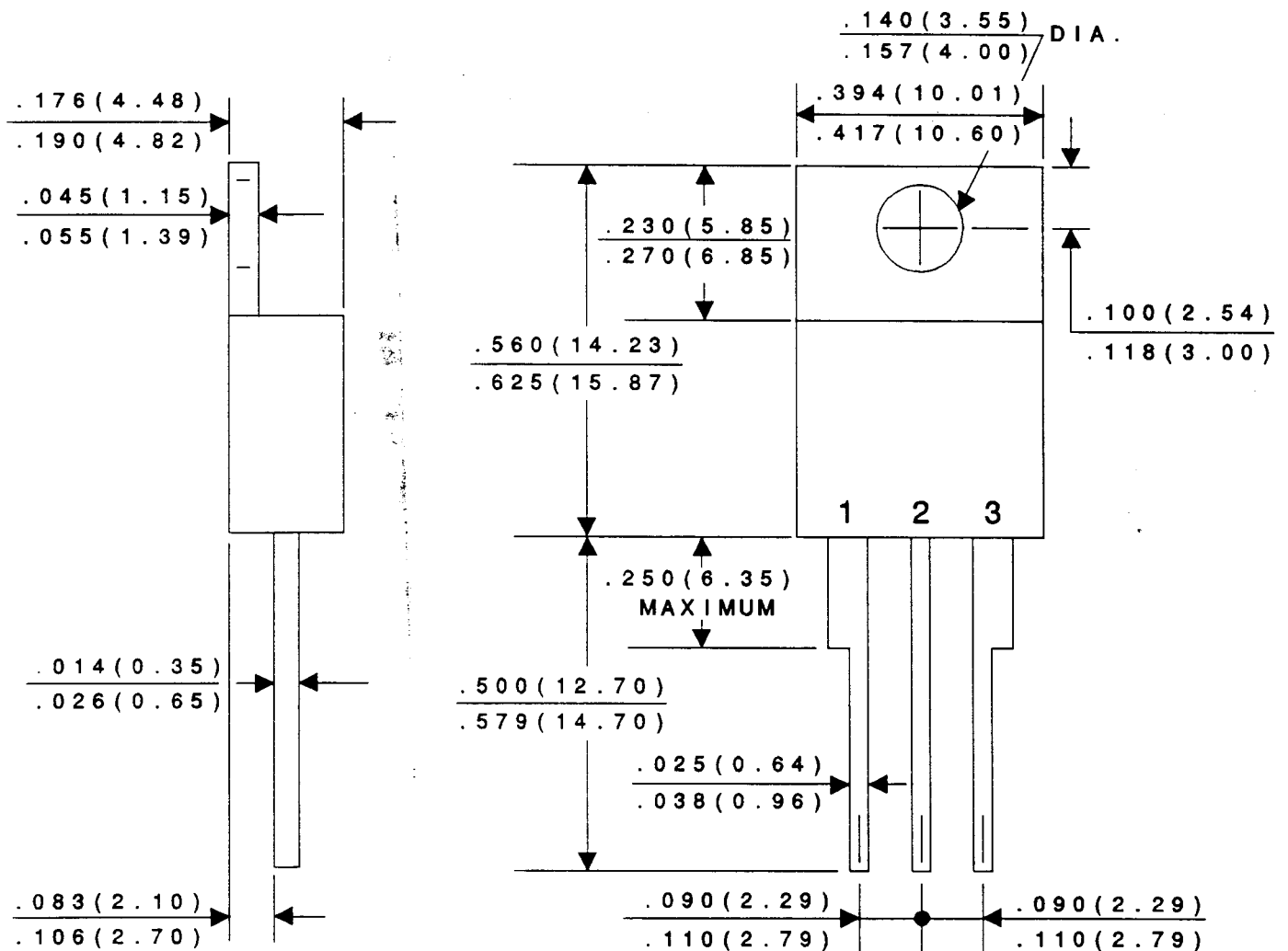
	SYMBOL		UNITS
Collector-Emitter Voltage	V _{CEV}	850	V
Collector-Emitter Voltage	V _{CEO}	400	V
Emitter-Base Voltage	V _{EBO}	9.0	V
Collector Current	I _C	8.0	A
Peak Collector Current	I _{CM}	16	A
Base Current	I _B	4.0	A
Peak Base Current	I _{BM}	8.0	A
Emitter Current	I _E	12	A
Peak Emitter Current	I _{EM}	24	A
Power Dissipation	P _D	80	W
Power Dissipation (T _A = 25°C)	P _D	2.0	W
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	θ _{JC}	1.56	°C/W
Thermal Resistance	θ _{JA}	62.5	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{CEV}	V _{CE} = 850V, V _{BE(off)} = 1.5V			1.0	mA
I _{CEV}	V _{CE} = 850V, 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	400			V
V _{CE(SAT)}	I _C = 2.0A, I _B = 400mA			1.0	V
V _{CE(SAT)}	I _C = 5.0A, I _B = 1.0A			1.5	V
V _{CE(SAT)}	I _C = 5.0A, I _B = 1.0A, T _C = 100°C			2.0	V
V _{CE(SAT)}	I _C = 8.0A, I _B = 2.0A			3.0	V
V _{BE(SAT)}	I _C = 2.0A, I _B = 400mA			1.2	V
V _{BE(SAT)}	I _C = 5.0A, I _B = 1.0A			1.6	V
V _{BE(SAT)}	I _C = 5.0A, I _B = 1.0A, T _C = 100°C			1.5	V
h _{FE}	V _{CE} = 5.0V, I _C = 2.0A	8.0		60	
h _{FE}	V _{CE} = 5.0V, I _C = 5.0A	5.0		30	
f _T	V _{CE} = 10V, I _C = 500mA, f = 1.0MHz	4.0			MHz
C _{ob}	V _{CB} = 10V, I _E = 0, f = 1.0MHz		110		pF
t _d	V _{CC} = 125V, I _C = 5.0A, I _{B1} = I _{B2} = 1.0A, t _p = 25μs, Duty Cycle ≤ 1%			0.1	μs
t _r	V _{CC} = 125V, I _C = 5.0A, I _{B1} = I _{B2} = 1.0A, t _p = 25μs, Duty Cycle ≤ 1%			1.5	μs
t _s	V _{CC} = 125V, I _C = 5.0A, I _{B1} = I _{B2} = 1.0A, t _p = 25μs, Duty Cycle ≤ 1%			3.0	μs
t _f	V _{CC} = 125V, I _C = 5.0A, I _{B1} = I _{B2} = 1.0A, t _p = 25μs, Duty Cycle ≤ 1%			0.7	μs

(SEE REVERSE SIDE)

JEDEC TO-220 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

LEAD CODE:

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

TAB IS COMMON TO
LEAD 2.