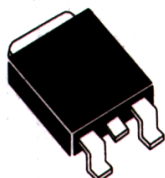




CJD13003

NPN SILICON  
POWER TRANSISTOR

DPAK POWER!™



DPAK CASE

**Central**™  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CJD13003 type is an NPN Silicon Power Transistors manufactured in a surface mount package designed for high voltage, high speed power switching inductive applications.

**MAXIMUM RATINGS** ( $T_C=25^\circ\text{C}$ )

	SYMBOL		UNITS
Collector-Emitter Voltage	$V_{CEV}$	700	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EBO}$	9.0	V
Continuous Collector Current	$I_C$	1.5	A
Peak Collector Current	$I_{CM}$	3.0	A
Continuous Base Current	$I_B$	750	mA
Peak Base Current	$I_{BM}$	1.5	A
Continuous Emitter Current	$I_E$	2.25	A
Peak Emitter Current	$I_{EM}$	4.5	A
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$	15	W
Power Dissipation ( $T_A=25^\circ\text{C}$ )	$P_D$	1.56	W
Operating and Storage			
Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$	8.33	$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JA}$	80.1	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CEV}$	$V_{CE}=700\text{V}, V_{BE(\text{off})}=1.5\text{V}$			100	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=700\text{V}, V_{BE(\text{off})}=1.5\text{V}, T_C=100^\circ\text{C}$			2.0	mA
$I_{EBO}$	$V_{EB}=9.0\text{V}$			1.0	mA
$BV_{CEO}$	$I_C=10\text{mA}$	400			V
$V_{CE(\text{SAT})}$	$I_C=500\text{mA}, I_B=100\text{mA}$			0.5	V
$V_{CE(\text{SAT})}$	$I_C=1.0\text{A}, I_B=250\text{mA}$			1.0	V
$V_{CE(\text{SAT})}$	$I_C=1.5\text{A}, I_B=500\text{mA}$			3.0	V
$V_{CE(\text{SAT})}$	$I_C=1.0\text{A}, I_B=250\text{mA}, T_C=100^\circ\text{C}$			1.0	V

(1)  $t_p=25\mu s$ , Duty Cycle $\leq 1\%$

**TOP VIEW**

Dimensions (inches in parentheses):

- Top horizontal dimensions: .248 (6.30), .268 (6.80)
- Inner top horizontal dimensions: .203 (5.15), .215 (5.45)
- Right side vertical dimensions: .053 (1.35), .065 (1.65)
- Left side vertical dimensions: .085 (2.15), .096 (2.45), .016 (0.40), .024 (0.60)
- Bottom left vertical dimensions: .033 (0.85), .061 (1.55)
- Bottom left horizontal dimensions: .016 (0.40), .024 (0.60)
- Bottom left horizontal dimensions: .030 (0.75), .061 (1.55)
- Bottom horizontal dimensions: .091 (2.3) BSC
- Top horizontal dimensions: .145 (3.69) MINIMUM
- Right side vertical dimensions: .211 (5.35), .222 (5.65)
- Bottom right vertical dimensions: .085 (2.15), .112 (2.85)
- Bottom right horizontal dimensions: .030 (0.75) MAXIMUM
- Bottom right horizontal dimensions: .091 (2.3) BSC

Feature labels: 1, 2, 3, 4

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