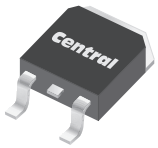
CJD13003

SURFACE MOUNT SILICON NPN POWER TRANSISTOR



DPAK CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CJD13003 is a silicon NPN power transistor manufactured in a surface mount package and designed for high voltage, high speed power switching inductive applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	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	P_D	15	W
Power Dissipation (T_A=25°C)	P_D	1.56	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JC}	8.33	°C/W
Thermal Resistance	Θ_{JA}	80.1	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CEV}	V_{CE}=700V, $V_{BE(off)}$=1.5V			100	μA
I_{CEV}	V_{CE}=700V, $V_{BE(off)}$=1.5V, T_C=100°C			2.0	mA
I_{EBO}	V_{EB}=9.0V			1.0	mA
BV_{CEO}	I_C=10mA	400			V
$V_{CE(SAT)}$	I_C=500mA, I_B=100mA			0.5	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=250mA			1.0	V
$V_{CE(SAT)}$	I_C=1.5A, I_B=500mA			3.0	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=250mA, T_C=100°C			1.0	V
$V_{BE(SAT)}$	I_C=500mA, I_B=100mA			1.0	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=250mA			1.2	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=250mA, T_C=100°C			1.1	V
h_{FE}	V_{CE}=2.0V, I_C=500mA	8.0		40	
h_{FE}	V_{CE}=2.0V, I_C=1.0A	5.0		25	
f_T	V_{CE}=10V, I_C=100mA, f=1.0MHz	4.0			MHz
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz		20		pF

R3 (21-January 2013)

CJD13003

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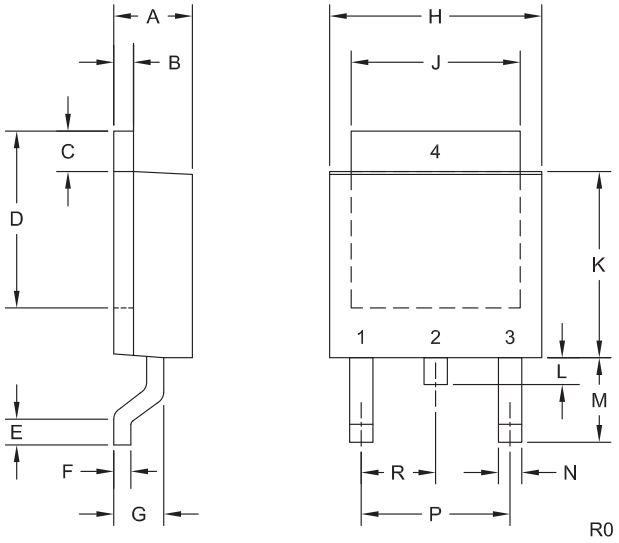
ELECTRICAL CHARACTERISTICS - Continued: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MAX	UNITS
t_d (Note 1)	V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA	0.1	μs
t_r (Note 1)	V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA	1.0	μs
t_s (Note 1)	V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA	4.0	μs
t_f (Note 1)	V_{CC}=125V, I_C=1.0A, I_{B1}=I_{B2}=200mA	0.7	μs

Notes (1) tp=25μs, Duty Cycle≤1%

DPAK CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.083	0.108	2.10	2.75
B	0.016	0.032	0.40	0.81
C	0.035	0.063	0.89	1.60
D	0.203	0.228	5.15	5.79
E	0.020	-	0.51	-
F	0.018	0.024	0.45	0.60
G	0.051	0.071	1.30	1.80
H	0.248	0.268	6.30	6.81
J	0.197	0.217	5.00	5.50
K	0.209	0.245	5.30	6.22
L	0.025	0.040	0.64	1.02
M	0.090	0.115	2.30	2.91
N	0.012	0.045	0.30	1.14
P	0.180		4.60	
R	0.090		2.30	

DPAK (REV: R0)

LEAD CODE:
1) Base
2) Collector
3) Emitter
4) Collector

MARKING:
FULL PART NUMBER

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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