

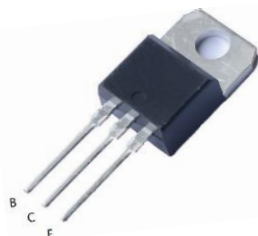
## NPN SILICON POWER TRANSISTORS 13005D

### ●DESCRIPTION:

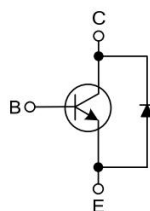
The 13005D is an NPN transistor used in electronic ballasts and electronic energy saving -lamps. It has the characteristics of low switching loss, high reliability, good high temperature characteristics, suitable switching speed, high breakdown voltage and low reverse leakage.



TO-126SD



TO-220



### ●ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	700	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Continuous Collector Current	3	A
$I_{cm}$	Collector Pulse Current ( $T_p < 5ms$ )	6	A
$P_{TOT}$	Total dissipation at $T_{case}=25^\circ C$	TO-126SD	50
		TO-220	75
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55—150	$^\circ C$

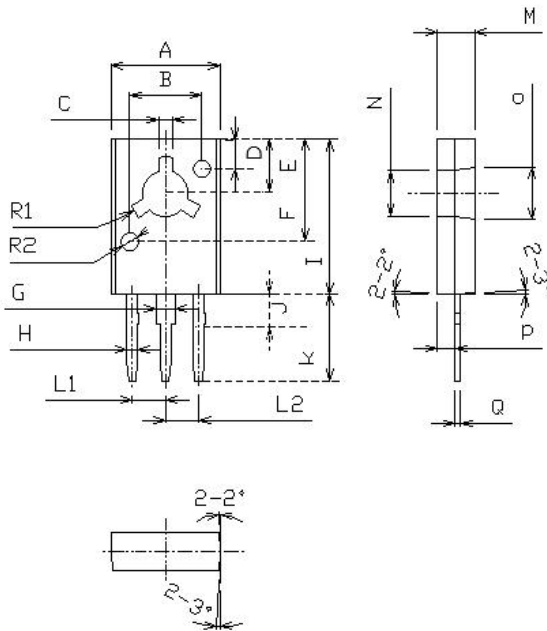
### ●ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ C$ , unless otherwise specified)

Symbol	Parameter	Test Condition	Value			Unit
			Min	Type	Max	
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 700V, I_E=0$			0.1	mA
$I_{CEO}$	Base Cutoff Current	$V_{CE}= 400V, I_c=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 9V, I_C=0$			0.1	mA
$V_{CBO}$	Collector-Base Breakdown Voltage	$I_C= 0.1mA$	700			V
$V_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C= 0.1mA$	400			V
$V_{EBO}$	Emitter-Base Breakdown Voltage	$I_B= 0.1mA$	9			V
$h_{FE}$	DC Current Gain	$I_C= 0.5A, V_{CE}= 5V$	15		35	
$V_{CE sat}^a$	Collector-Base Breakdown Voltage	$I_C= 2A, I_B= 0.5A$			1	V
$V_{BE sat}^a$	Base-Emitter Saturation Voltage	$I_C= 2A, I_B= 0.5A$			1.5	V
$t_s$	Storage Time	UI9600, $I_C=0.5A$	2		7	us
$f_t$	Transition Frequency	$V_{CE}=10V, I_C=0.2A$ $F=1MHz$	5			MHz

a: Pulse Test,  $t_p \leq 300us, \delta \leq 2\%$

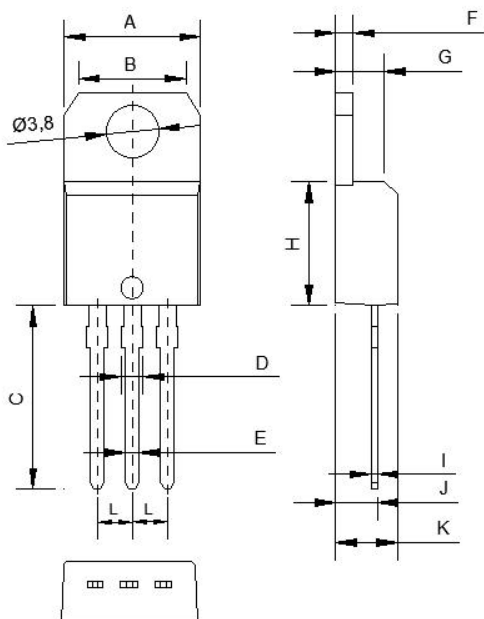
● PACKAGE MECHANICAL DATA

To-126SD



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	7.4	7.6	0.291	0.299
B	4.95	5.05	0.195	0.199
C	0.85	1.05	0.033	0.041
D	2	2.2	0.079	0.087
E	3.7	3.9	0.146	0.154
F	7	7.2	0.276	0.283
G	1.25	1.29	0.049	0.051
H	0.74	0.78	0.029	0.031
I	10.65	10.85	0.419	0.427
J	2.4	2.6	0.094	0.102
K	5.9	6.1	0.232	0.240
L1	2.236	2.336	0.088	0.092
L2	2.236	2.336	0.088	0.092
M	2.55	2.65	0.100	0.104
N	φ 3.05	φ 3.25	φ 0.120	φ 0.128
O	φ 3.50	φ 3.70	φ 0.138	φ 0.146
P	1.15	1.25	0.045	0.049
Q	0.39	0.41	0.015	0.016
R1	φ 4.90	φ 5.10	φ 0.193	φ 0.201
R2	φ 1.15	φ 1.25	φ 0.045	φ 0.049

To-220



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	9.80	10.00	0.386	0.394
B	7.70	7.90	0.303	0.311
C	13.15	13.55	0.518	0.533
D	1.51	1.61	0.059	0.063
E	0.96	1.00	0.038	0.039
F	1.20	1.30	0.047	0.051
G	3.40	3.60	0.134	0.142
H	8.80	9.10	0.346	0.358
I	0.42	0.48	0.017	0.019
J	2.80	3.10	0.110	0.122
K	4.20	4.70	0.165	0.185
L	2.50	2.60	0.098	0.102

● ELECTRICAL CHARACTERISTICS (CURVES)

