



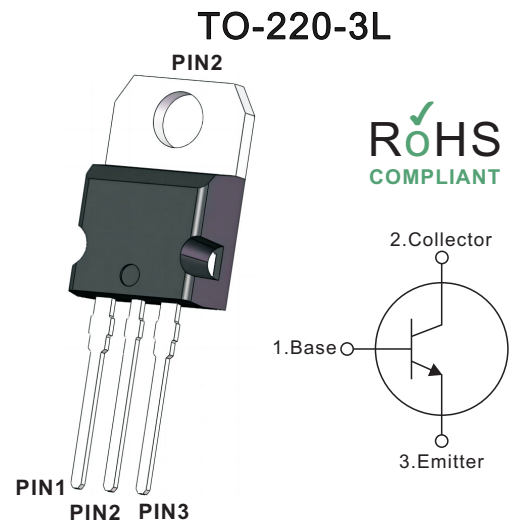
Plastic-Encapsulate Transistors(NPN)

Features

- Compact electronic energy-saving lamp
- Electronic ballast
- General power switch circuit

Mechanical data

- Case: TO-220-3L
- Approx. Weight: 2.04g (0.07oz)
- Lead free finish, RoHS compliant
- Case Material: “Green” molding compound, UL flammability classification 94V-0,“Halogen-free”.



Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbols	Ratings	Units
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current -Continuous	I_C	12	A
Collector Power Dissipation	P_{CM}	100	W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

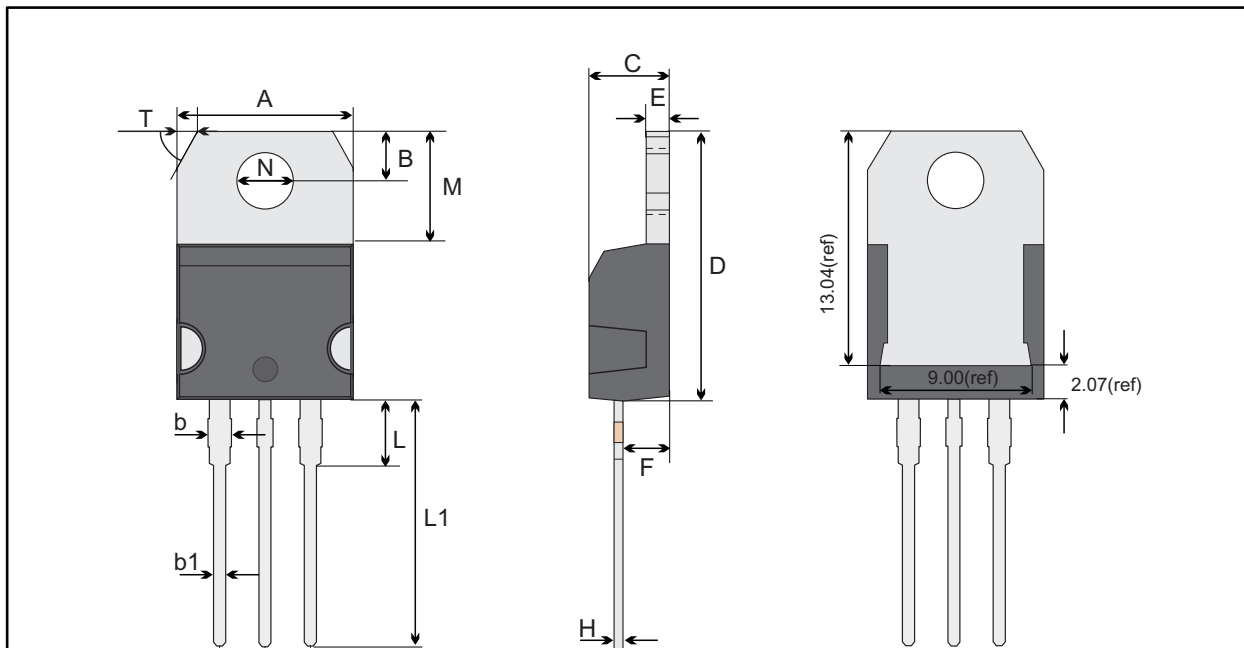
Electrical Characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbols	Test conditions	Min	Typ	Max	Units
Collector-Base cut off current	I_{CBO}	$V_{CB}=700V, I_E=0$			100	μA
Collector-Emitter cut off current	I_{CEO}	$V_{CE}=400V, I_C=0$			100	μA
Emitter-Base cut off current	I_{EBO}	$V_{EB}=9V, I_C=0$			100	μA
Collector-Base Voltage	V_{CBO}	$I_C=0.1mA$	700			
Collector-Emitter voltage	V_{CEO}	$I_C=1mA$	400			
Emitter-Base Voltage	V_{EBO}	$I_E=0.1mA$	9			
Emitter-base breakdown voltage	h_{FE}	$V_{CE}=5V, I_C=3A$	20		35	
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=8A, I_B=1.6A$			1.0	V
Base-emitter saturation voltage	$V_{BE(SAT)}$	$I_C=8A, I_B=1.6A$			1.6	V
Transition frequency	f_T	$V_{CE}=10V, I_C=0.5A, f=1MHz$	4			MHz



Package Outline
Through Hole Package ; 3 leads

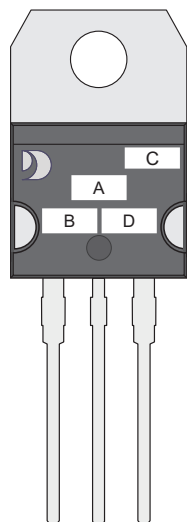
TO-220-3L



TO-220-3L mechanical data

UNIT		A	B	b	b1	C	D	E	F	G	H	L	L1	M	N	T
mm	max	10.28	2.84	1.67	0.9	4.65	15.54	1.37	2.79	2.64	0.6	3.88	13.13	6.39	3.82 typ.	1.19 58° ref.
	typ	10.18	2.74	1.47	0.8	4.45	15.34	1.27	2.59	2.54	0.5	3.68	12.93	6.19		
	min	10.08	2.64	1.27	0.7	4.25	15.14	1.17	2.39	2.44	0.4	3.48	12.73	5.99		
mil	max	405	112	66	35	183	612	54	110	104	24	153	517	252	150 typ.	47 58° ref.
	typ	401	108	58	31	175	604	50	102	100	20	145	509	244		
	min	397	104	50	28	167	596	46	94	92	16	137	501	236		

Marking Diagram



- Unmarkable Surfacea
- Marking Composition Field
- a: Ejector Pin Mark
- A: Marking Area
- B: Lot Code
- C: Additional Information
- D: Date Code (YWW)
- Y: Years(0~9)
- WW: Week



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