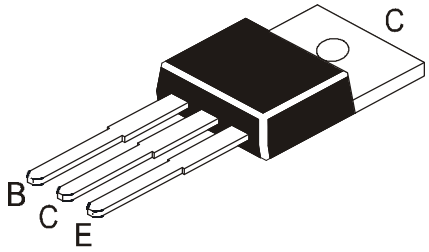
Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company

SILICON PLASTIC POWER TRANSISTORS

C44H Series NPN
C45H Series PNP



TO-220
Plastic Package

For General Purpose Power Amplification and Switching such as Output or Driver stages in Applications such as Switching Regulators, Converters and Power Amplifiers.

ABSOLUTE MAXIMUM RATINGS

RATING	SYMBOL	C44H or C45H				UNIT
		1, 2	4, 5	7, 8	10,11	
Collector Emitter Voltage	V_{CEO}	30	45	60	80	V
Emitter Base Voltage	V_{EBO}	5				V
Collector Current Continuous	I_C	10				A
Peak (1)	I_C	20				A
Total Power Dissipation T_c=25ºC	P_D	50				W
Total Power Dissipation T_a=25ºC		1.67				
Operating & Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150				ºC

(1) Pulse width≤6ms, Duty Cycle≤50%

THERMAL RESISTANCE

CHARACTERISTICS	SYBMOL	MAX	UNIT
Junction to Case	$R_{th\ (j\text{-}c)}$	2.5	ºC/W
Junction to Ambient	$R_{th\ (j\text{-}a)}$	75	ºC/W
Maximum Lead Temperature for Soldering Purpose 1/8" From Case for 5 seconds	T_L	275	ºC

ELECTRICAL CHARACTERISTICS (T_c=25ºC Unless Specified Otherwise)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
DC Current	h_{FE}	I_C=2A, V_{CE}=1V				
		C44H1, 4, 7, 10	35			
		C45H1, 4, 7, 10				
		C44H2, 5, 8, 11	60			
		C45H2, 5, 8, 11				
		I_C=4A, V_{CE}=1V	20			
		C44H1, 4, 7, 10				
		C45H1, 4, 7, 10				
		C44H2, 5, 8, 11	35			
		C45H2, 5, 8, 11				

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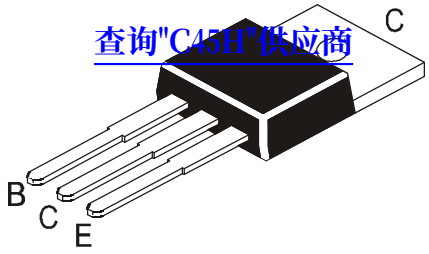

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ELECTRICAL CHARACTERISTICS (T_c=25ºC Unless Specified Otherwise)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut Off Current	I_{CES}	V_{BE}=0, V_{CE}=Rated V_{CEO}			10	µA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C=0			100	µA
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=8A, I_B=0.4A **C44H/C45H2, 5, 8, 11** I_C=8A, I_B=0.8A **C44H/C45H1, 4, 7, 10**			1.85 1.0	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=8A, I_B=0.8A			1.5	V

DYNAMIC CHARACTERISTICS

Collector Capacitance	C_{Cb}	V_{CB}=10V, f=1MHz **C44H Series** **C45H Series**		 130 230		pF
Current Gain Product	f_T	I_C=0.5A,V_{CE}=10V,f=20MHz **C44H Series** **C45H Series**		 50 40		MHz

SWITCHING TIMES

Delay And Rise Time	t_d+t_r	I_C=5A, I_{B1}=0.5A **C44H Series** **C45H Series**		 300 135		ns
Storage Time	t_s	I_C=5A, I_{B1}= I_{B2}= 0.5A **C44H Series** **C45H Series**		500 500		ns
Fall Time	t_f	I_C=5A, I_{B1}= I_{B2}= 0.5A **C44H Series** **C45H Series**		 140 100		ns

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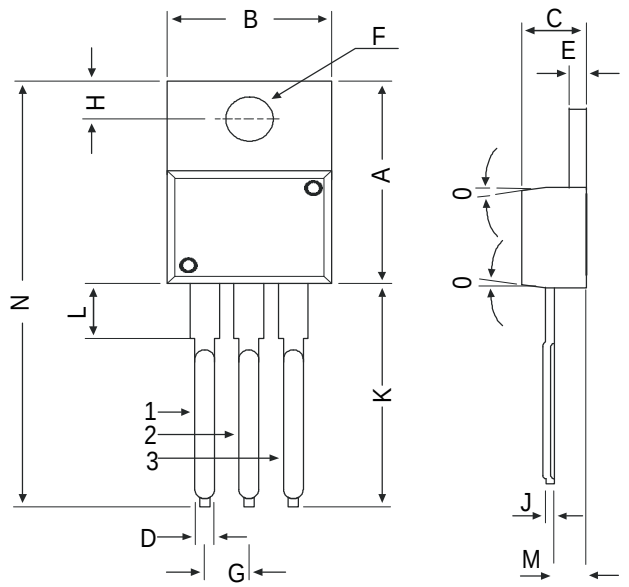
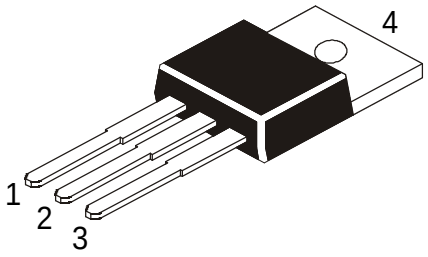


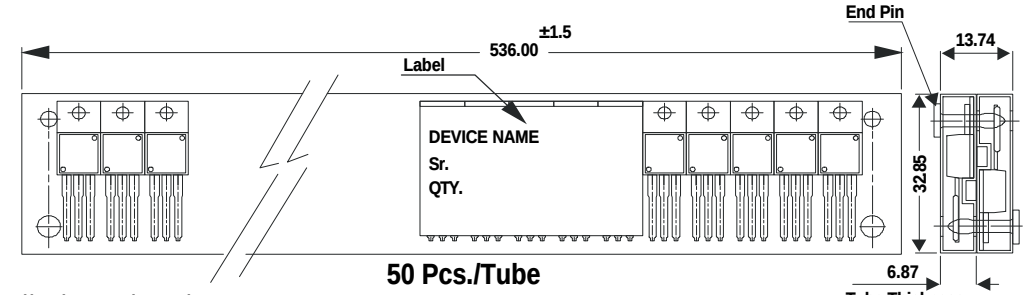
DIM	MIN	MAX
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	—	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	—	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	—	31.24
O	7 DEG	

All diminsions in mm.



Pin Configuration
1. Base
2. Collector
3. Emitter
4. Collector

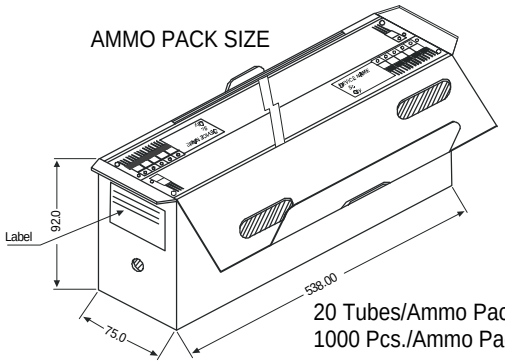
TO-220 Tube Packing



50 Pcs./Tube

All Dimensions in mm

AMMO PACK SIZE



20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220 /FP	200 pcs/polybag	396 gm/200 pcs	3" x 7.5" x 7.5"	1.0K	17" x 15" x 13.5"	16.0K	36 kgs
	50 pcs/tube	120 gm/50 pcs	3.5" x 3.7" x 21.5"	1.0K	19" x 19" x 19"	10.0K	29 kgs

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Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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