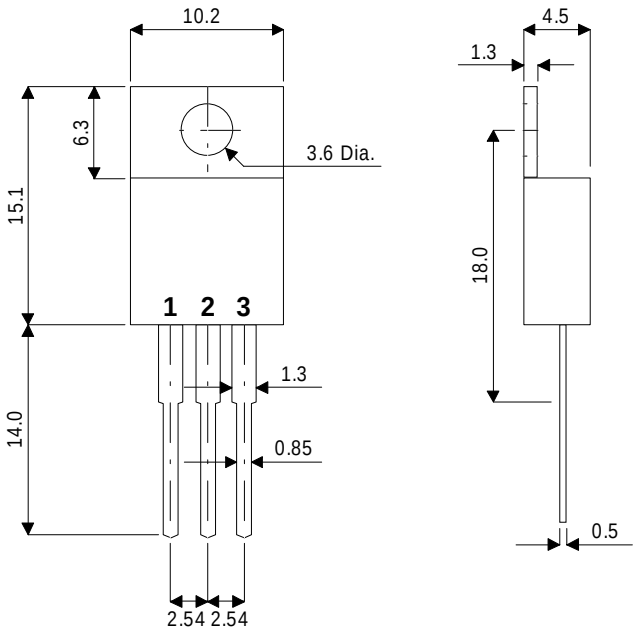
SEME LAB

BUL74B

ADVANCED
DISTRIBUTED BASE DESIGN
HIGH VOLTAGE
HIGH SPEED NPN
SILICON POWER TRANSISTOR

MECHANICAL DATA
Dimensions in mm



TO-220

Pin 1 - Base Pin 2 - Collector Pin 3 - Emitter

Designed for use in electronic ballast applications

- **SEMEFAB DESIGNED AND DIFFUSED DIE**
- **HIGH VOLTAGE**
- **HIGH CURRENT**
- **EFFICIENT POWER SWITCHING**

FEATURES

- **Multi–base for efficient energy distribution across the chip resulting in significantly improved switching and energy ratings across full temperature range.**
- **Ion implant and high accuracy masking for tight control of characteristics from batch to batch.**
- **Triple Guard Rings for improved control of high voltages.**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage(I_E=0)	800V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	400V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	10V
I_C	Continuous Collector Current	15A
I_B	Base Current	5A
P_{tot}	Total Dissipation at T_{case} = 25°C	100W
T_j	Junction Temperature	150°C
T_{stg}	Operating and Storage Temperature Range	–55 to +150°C

SEME LAB

BUL74B

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	ELECTRICAL CHARACTERISTICS						
$V_{CEO(sus)}$	Collector – Emitter Sustaining Voltage	I_C = 10mA		400			V
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 1mA		800			
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 1mA		10			
I_{CBO}	Collector – Base Cut–Off Current	V_{CB} = 800V				10	µA
			T_C = 125°C			100	
I_{CEO}	Collector – Emitter Cut–Off Current	V_{CE} = 390V				10	µA
I_{EBO}	Emitter Cut–Off Current	V_{EB} = 9V				10	µA
			T_C = 125°C			100	
h_{FE*}	DC Current Gain	I_C = 0.1A	V_{CE} = 1V	18		50	—
		I_C = 5A	V_{CE} = 1V	10		30	
		I_C = 7A	V_{CE} = 5V	11		30	
		I_C = 10A	V_{CE} = 5V	8		20	
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = 1A	I_B = 0.1A			0.1	V
		I_C = 5A	I_B = 0.5A			0.5	
		I_C = 10A	I_B = 2A			0.8	
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = 5A	I_B = 0.5A			1.2	V
		I_C = 10A	I_B = 2A			1.5	
	DYNAMIC CHARACTERISTICS						
f_t	Transition Frequency	I_C = 0.2A	V_{CE} = 4V		16		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V	f = 1MHz		90		pF

* Pulse test t_p = 300µs , δ < 2%

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.