

isc Silicon NPN Power Transistor

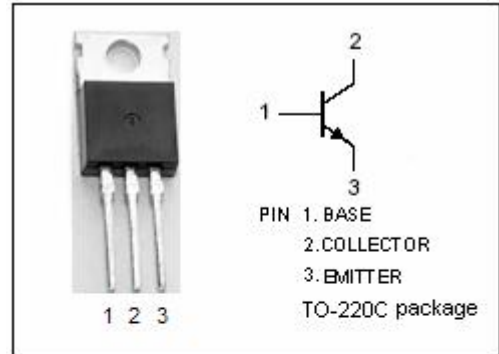
BUL1203E

DESCRIPTION

- High Voltage
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

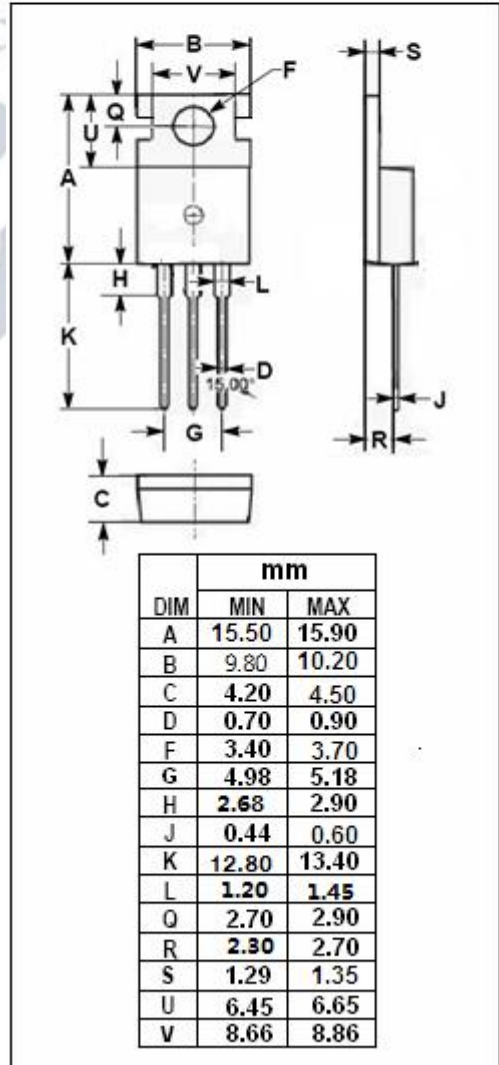
APPLICATIONS

- Electronic ballasts for fluorescent lighting



ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	1200	V
V _{CES}	Collector-Emitter Voltage V _{BE} = 0	1200	V
V _{CEO}	Collector-Emitter Voltage	550	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current-Continuous	5	A
I _{CM}	Collector Current-Peak	8	A
I _B	Base Current	2	A
I _{BM}	Base Current-Peak	4	A
P _C	Collector Power Dissipation @T _C =25°C	100	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.25	°C/W

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ELECTRICAL CHARACTERISTICS
T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	550			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.2A			0.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.4A			0.7	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 1A			1.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 0.4A			1.5	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 1A			1.5	V
I _{CES}	Collector Cutoff Current	V _{CE} = 1200V; V _{BE} = 0			0.1	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 550V; I _B = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1mA; V _{CE} = 5V	10			
h _{FE-2}	DC Current Gain	I _C = 10mA; V _{CE} = 5V	10			
h _{FE-3}	DC Current Gain	I _C = 0.8A; V _{CE} = 3V	14		32	
h _{FE-4}	DC Current Gain	I _C = 2A; V _{CE} = 5V	9		28	

Switching Times ;Resistive Load

t _{on}	Turn-on Time				0.5	μs
t _s	Storage Time	I _C = 2A; I _{B1} = 0.4A; I _{B2} = -0.8A; t _p = 30 μs; V _{CC} = 150V			3.0	μs
t _f	Fall Time				0.3	μs