

isc Silicon NPN Power Transistor

BUL903ED

DESCRIPTION

- INTEGRATED ANTISATURATION AND PROTECTION NETWORK
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE
- HIGH VOLTAGE CAPABILITY
- LOW SPREAD OF DYNAMIC PARAMETERS
- MINIMUM LOT-TO-LOT SPREAD FOR RELIABLE OPERATION
- VERY HIGH SWITCHING SPEED
- ARCING TEST SELF PROTECTED

APPLICATIONS

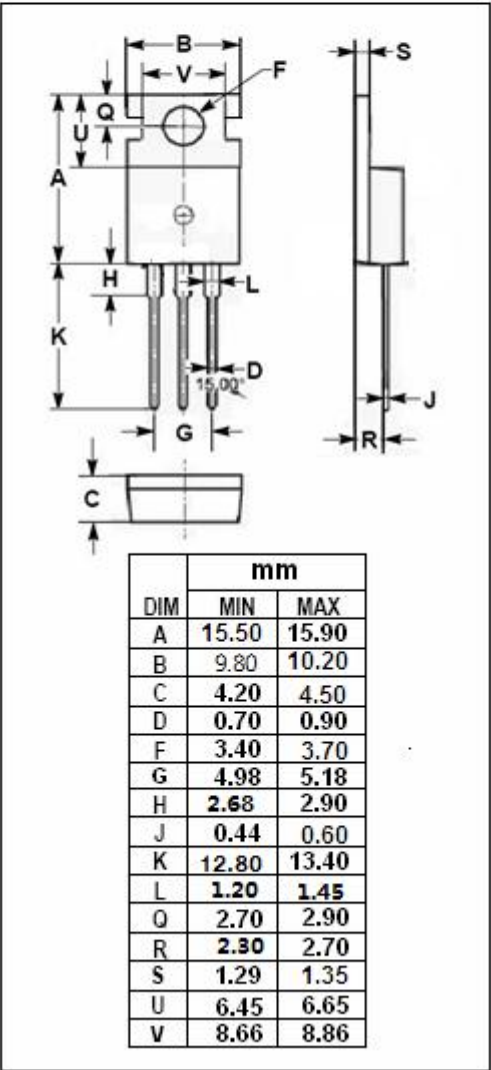
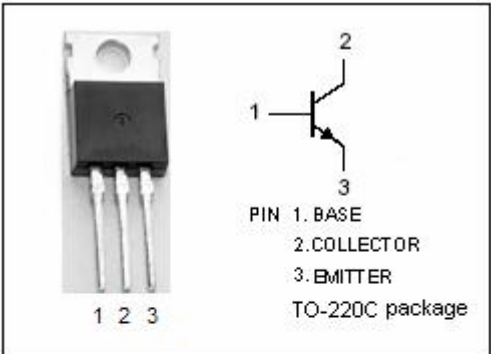
- LAMP ELECTRONIC BALLAST FOR FLUORESCENT LIGHTING USING 277V HALF BRIDGE CURRENT-FED CONFIGURATION

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CES}	Collector-Emitter Voltage (V _{BE} = 0)	900	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	400	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	7	V
I _C	Collector Current-Continuous	5	A
I _{CM}	Collector Peak Current (t _p < 5 ms)	8	A
I _B	Base Current	2	A
P _C	Collector Power Dissipation @ T _C =25°C	70	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	1.8	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	62.5	°C/W



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ELECTRICAL CHARACTERISTICS

 $T_C = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 10\text{ mA}$ $I_B = 0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{ A}$ $I_B = 0.15\text{ A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 0.1\text{ A}; I_B = 0.05\text{ A}$ $I_C = 0.5\text{ A}; I_B = 0.1\text{ A}$ $I_C = 2.0\text{ A}; I_B = 0.4\text{ A}$			1.0 1.1 1.2	V
I_{CES}	Collector Cutoff Current	$V_{CE} = 900\text{ V}$			1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7\text{ V}$			100	μA
h_{FE}	DC Current Gain	$I_C = 5\text{ mA}; V_{CE} = 10\text{ V}$ $I_C = 0.5\text{ A}; V_{CE} = 3\text{ V}$	8 20			
t_f	Fall Time	$V_{CC} = 125\text{ V}; I_C = 0.5\text{ A}$ $I_{B1} = 0.045\text{ A}; I_{B2} = 0.5\text{ A}$ $t_p = 300\text{ }\mu\text{s}$			0.5	μs