



HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

BUL128

- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- LOW SPREAD OF DYNAMIC PARAMETERS
- MINIMUM LOT-TO-LOT SPREAD FOR RELIABLE OPERATION
- VERY HIGH SWITCHING SPEED

APPLICATIONS

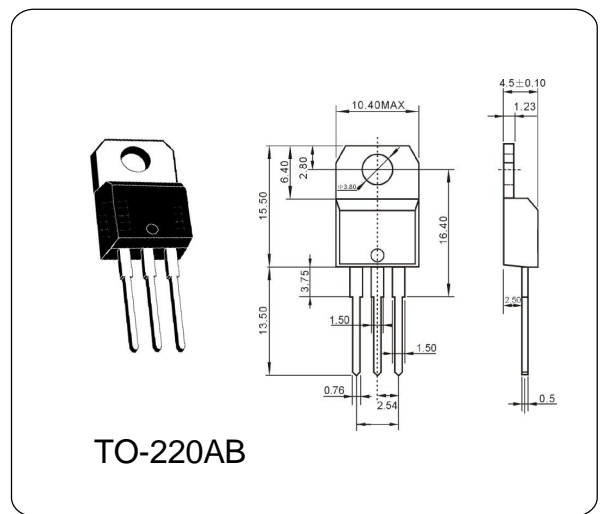
- ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING

DESCRIPTION

The device is manufactured using high voltage Multi Epitaxial Planar technology for high switching speeds and medium voltage capability. It uses a Cellular Emitter structure with planar edge termination to enhance switching speeds while maintaining the wide RBSOA. The device is designed for use in lighting applications and low cost switch-mode power

ABSOLUTE MAXIMUM RATINGS

Parameter	ol	Value	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	4.0	A
Base Current	I_B	2.0	A
Total Dissipation at	P_{tot}	70	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-65~150	°C



(Tcase = 25 °C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CES}	$V_{CE}=700V, I_E=0$	—	—	0.1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=9V, I_C=0$	—	—	0.1	mA
Collector-Emitter Sustaining Voltage	V_{CEO}	$I_C=100mA, I_B=0$	400	—	—	V
Emitter-Base Voltage ($I_C=0$)	V_{EBO}	$I_E=10mA$	9	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=2.0A$	14	—	40	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=10mA$	10	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A, I_B=0.2A$	—	—	1.0	V
		$I_C=4.0A, I_B=1.0A$	—	—	1.5	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.0A, I_B=0.2A$	—	—	1.2	V
		$I_C=2.5A, I_B=0.5A$	—	—	1.3	
Storage Time	T_S	$I_C=2.5A, I_{B1}=-I_{B2}=0.5A$	1.5	—	3.0	us