



## 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

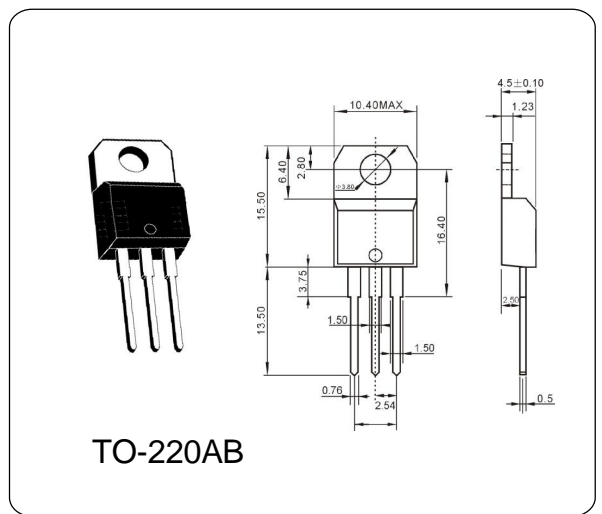
- ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING

### 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