

# NPN MEDIUM POWER TRANSISTOR

Туре	Marking		
STX715	X715		

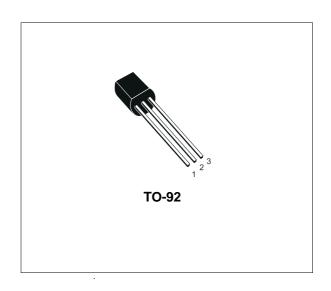
 DEVICE SUITABLE FOR THROUGH-HOLE PCB ASSEMBLY

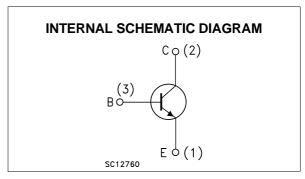
#### **APPLICATIONS**

- VOLTAGE REGULATION
- RELAY DRIVER
- GENERIC SWITCH

#### **DECRIPTION**

The STX715 is a NPN transistor manufactured using Planar Technology resulting in rugged high performance devices.





#### **ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage (I <sub>E</sub> = 0)	140	V
V <sub>CEO</sub>	Collector-Emitter Voltage (I <sub>B</sub> = 0)	80	V
V <sub>EBO</sub>	Emitter-Base Voltage (I <sub>C</sub> = 0)	5	V
Ic	Collector Current	1.5	Α
I <sub>CM</sub>	Collector Peak Current (t <sub>p</sub> < 5 ms)	2	Α
I <sub>B</sub>	Base Current	0.3	Α
I <sub>BM</sub>	Base Peak Current (t <sub>p</sub> < 5 ms)	0.6	Α
P <sub>tot</sub>	Total Dissipation at T <sub>amb</sub> = 25 °C	0.9	W
T <sub>stg</sub>	Storage Temperature	-65 to 150	°C
Tj	Max. Operating Junction Temperature	150	°C

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### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	44.6	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	139	°C/W

## **ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25$ $^{\circ}C$ unless otherwise specified)

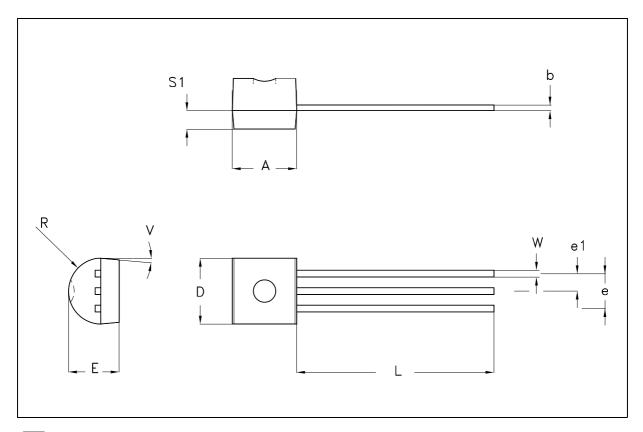
Symbol	Parameter	Test Conditions		Min.	Тур.	Max.	Unit
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	V <sub>CE</sub> = 140 V				500	μΑ
ICEO	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 80 V				1	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V				100	μΑ
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 10 mA		80			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 100 mA I <sub>C</sub> = 1 A	$I_B = 10 \text{ mA}$ $I_B = 100 \text{ mA}$			0.25 0.5	V V
V <sub>BE(sat)</sub> *	Base-Emitter Saturation Voltage	I <sub>C</sub> = 100 mA I <sub>C</sub> = 1 A	I <sub>B</sub> = 10 mA I <sub>B</sub> = 100 mA			1 1.1	V V
h <sub>FE</sub> *	DC Current Gain	I <sub>C</sub> = 100 mA I <sub>C</sub> = 500 mA I <sub>C</sub> = 1 A	V <sub>CE</sub> = 2 V V <sub>CE</sub> = 2 V V <sub>CE</sub> = 2 V	140 80 40			
f⊤	Transition Frequency	I <sub>C</sub> = 0.1 A	V <sub>CE</sub> = 10 V		50		MHz

<sup>\*</sup> Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

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### **TO-92 MECHANICAL DATA**

DIM.	mm			inch		
2	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
А	4.32		4.95	0.170		0.195
b	0.36		0.51	0.014		0.020
D	4.45		4.95	0.175		0.194
Е	3.30		3.94	0.130		0.155
е	2.41		2.67	0.095		0.105
e1	1.14		1.40	0.045		0.055
L	12.70		15.49	0.500		0.609
R	2.16		2.41	0.085		0.094
S1	1.14		1.52	0.045		0.059
W	0.41		0.56	0.016		0.022
V	4 degree	,	6 degree	4 degree		6 degree



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