



NPN MEDIUM POWER TRANSISTOR

Type	Marking
STX715	X715

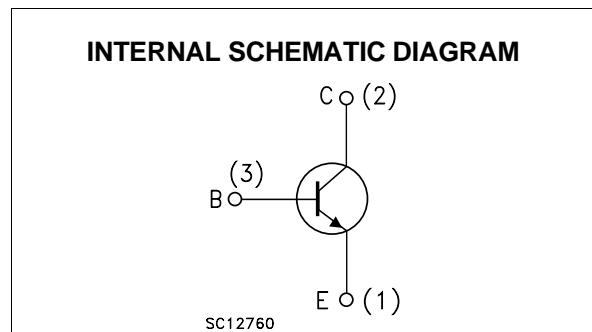
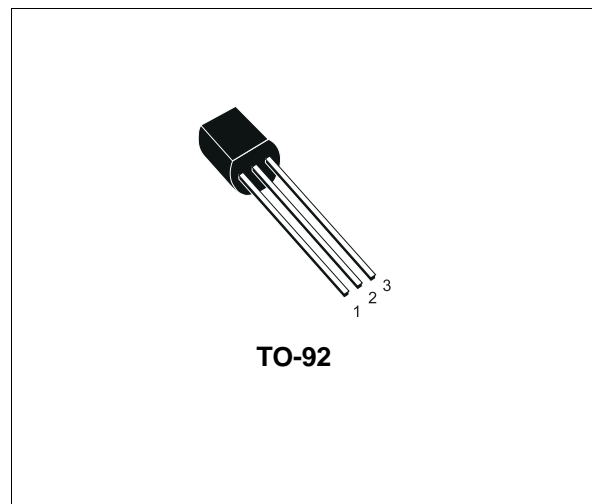
- DEVICE SUITABLE FOR THROUGH-HOLE PCB ASSEMBLY

APPLICATIONS

- VOLTAGE REGULATION
- RELAY DRIVER
- GENERIC SWITCH

DESCRIPTION

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



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	140	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	80	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	5	V
I_C	Collector Current	1.5	A
I_{CM}	Collector Peak Current ($t_p < 5$ ms)	2	A
I_B	Base Current	0.3	A
I_{BM}	Base Peak Current ($t_p < 5$ ms)	0.6	A
P_{tot}	Total Dissipation at $T_{amb} = 25$ °C	0.9	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

STX715

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	44.6	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	139	°C/W

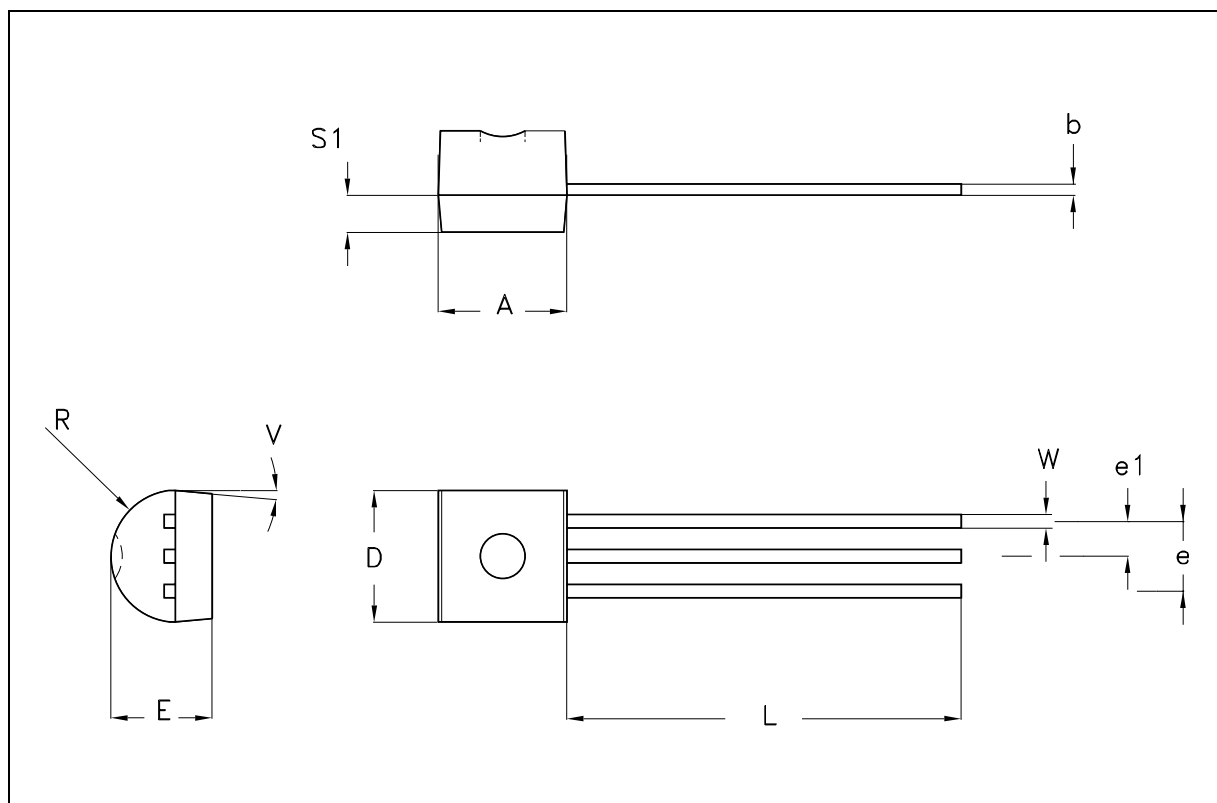
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 140 V			500	μA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 80 V			1	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			100	μA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 10 mA	80			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 100 mA I _C = 1 A	I _B = 10 mA I _B = 100 mA		0.25 0.5	V V
V _{BE(sat)} *	Base-Emitter Saturation Voltage	I _C = 100 mA I _C = 1 A	I _B = 10 mA I _B = 100 mA		1 1.1	V V
h _{FE} *	DC Current Gain	I _C = 100 mA I _C = 500 mA I _C = 1 A	V _{CE} = 2 V V _{CE} = 2 V V _{CE} = 2 V	140 80 40		
f _T	Transition Frequency	I _C = 0.1 A	V _{CE} = 10 V		50	MHz

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

TO-92 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	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
E	3.30		3.94	0.130		0.155
e	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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