STX715

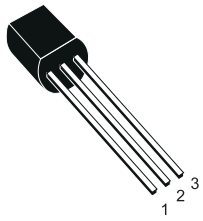
NPN MEDIUM POWER TRANSISTOR

Type	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.



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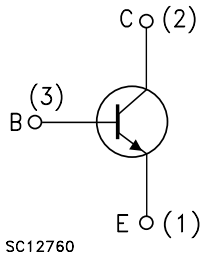
INTERNAL SCHEMATIC DIAGRAM



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 ^oC	0.9	W
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max. Operating Junction Temperature	150	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	44.6	$^oC/W$
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	139	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC 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