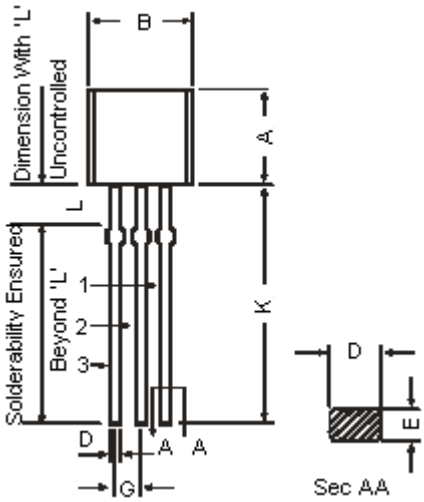
TMPSA92

Low Power Bipolar Transistors

Description:

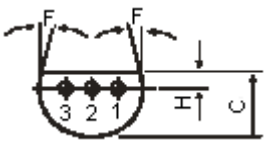
- Devices with breakdown voltages of 160V minimum, for applications requiring relatively low collector current, such as lamp drivers and neon tubes.
- Designed for general purpose applications requiring high breakdown voltages.
- Low saturation voltages and low capacitance.

TO-92 Plastic Package



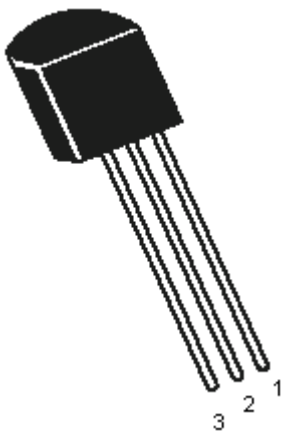
Dimensions	Minimum	Maximum
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H		1.53
K	12.70	-

Dimensions : Millimetres



Pin Configuration

1. Collector
2. Base
3. Emitter



Absolute Maximum Ratings (T_a = 25°C unless otherwise specified)

Description	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	300	V
Collector-Base Voltage	V_{CBO}		
Emitter-Base Voltage	V_{EBO}	5.0	
Collector Current Continuous	I_C	500	mA
Power Dissipation at T_a = 25°C Derate Above 25°C	P_D	625 5.0	mW mW/°C
Power Dissipation at T_c = 25°C Derate Above 25°C		1.5 12	W mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	°C
Thermal Resistance			
Junction to Case	$R_{th\ (j–c)}$	83.3	°C/W
Junction to Ambient	$R_{th\ (j–a)}$	200	

Electrical Characteristics (T_a = 25°C unless otherwise specified)

Description	Symbol	Test Condition	Minimum	Maximum	Unit
Collector-Emitter Voltage	V_{CEO}*	I_C = 1mA, I_B = 0	300	-	V
Collector-Base Voltage	V_{CBO}	I_C = 100µA, I_E = 0	300	-	
Emitter-Base Voltage	V_{EBO}	I_E = 10µA, I_C = 0	5.0	-	
Collector-Cut off Current	I_{CBO}	V_{CB} = 200V, I_E = 0	-	250	nA
Emitter-Cut off Current	I_{EBO}	V_{EB} = 3V, I_C = 0	-	100	
DC Current Gain	h_{FE}*	I_C = 1mA, V_{CE} = 10V	25	-	-
		I_C = 10mA, V_{CE} = 10V	40	-	-
		I_C = 30mA, V_{CE} = 10V	25	-	-
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$*	I_C = 20mA, I_B = 2mA	-	0.5	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$*	I_C = 20mA, I_B = 2mA	-	0.9	
Dynamic Characteristics					
Transition Frequency	ft	V_{CE} = 20V, I_C = 10mA f = 100MHz	50	-	MHz
Collector Base Capacitance	Ccb	V_{CB} = 20V, I_E = 0 f = 1MHz	-	6.0	pF

*Pulse Test: Pulse Width = 300us, Duty Cycle = 2%.

Specifications

V_{CEO} maximum (V)	$I_{C\ (av)}$ maximum (A)	h_{FE} minimum at I_C = 10mA	$V_{CE\ (sat)}$ maximum (V) at I_C = 20mA	f_T minimum (MHz)	P_{tot} at 25°C (mW)	Package	Part Number
300	0.5	40	0.5	50	625	TO-92	TMPSA92

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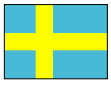

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