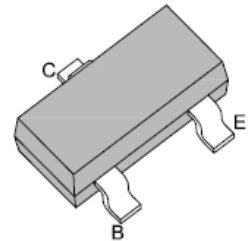


SMD High Voltage Transistor (NPN)

Features

- This device is designed for application as a video output to drive color CRT and other high voltage applications.
- RoHS compliance



SOT-23



Mechanical Data

Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.008 gram

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	MMBTA42	Unit
	Marking Code	1D	
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EB0}	Emitter-Base Voltage	6	V
I_C	Collector Current	500	mA
P_{tot}	Power Dissipation up to T _A =25°C	250	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

SMD High Voltage Transistor (NPN)

MMBTA42

Electrical Characteristics ($T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	MMBTA42		Unit	Conditions
		Min.	Max.		
h_{FE}	D.C. Current Gain	25	-		$V_{CE}=10\text{V}$, $I_C=1\text{mA}$
		40	-		$V_{CE}=10\text{V}$, $I_C=10\text{mA}$
		40	-		$V_{CE}=10\text{V}$, $I_C=30\text{mA}$
V_{(BR)CEO}	Collector-Emitter Breakdown Voltage	300	-	V	$I_C=1\text{mA}$, $I_B=0$
V_{(BR)CBO}	Collector-Base Breakdown Voltage	300	-	V	$I_C=100\mu\text{A}$, $I_E=0$
V_{(BR)EBO}	Emitter-Base Breakdown Voltage	6	-	V	$I_E=100\mu\text{A}$, $I_C=0$
V_{CE(sat)}	Collector-Emitter Saturation Voltage	-	0.5	V	$I_C=20\text{mA}$, $I_B=2\text{mA}$
V_{BE(sat)}	Base-Emitter Saturation Voltage	-	0.9	V	$I_C=20\text{mA}$, $I_B=2\text{mA}$
I_{EBO}	Collector-Emitter Cut-off Current	-	0.1	μA	$V_{BE}=6\text{V}$, $I_C=0$
I_{CBO}	Collector-Base Cut-off Current	-	0.1	μA	$V_{CB}=200\text{V}$, $I_E=0$
f_T	Current Gain-Bandwidth Product	50	-	MHz	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=35\text{MHz}$
C_{re}	Feedback Capacitance	-	3	pF	$V_{CB}=20\text{V}$, $I_E=0$, $f=1.0\text{MHz}$

SMD High Voltage Transistor (NPN)

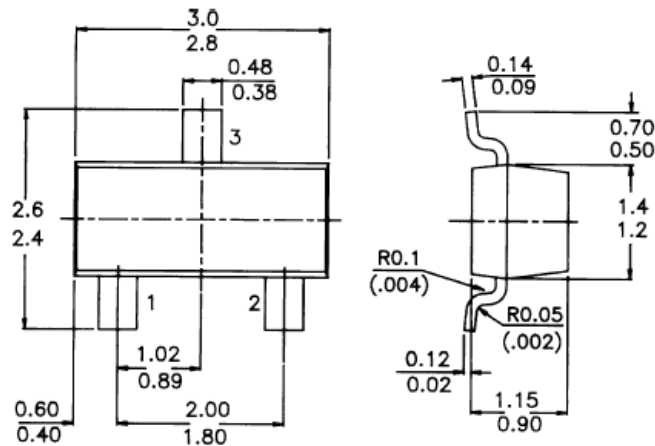
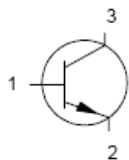
MMBTA42

Dimensions in mm

SOT-23

Pin configuration

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



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