

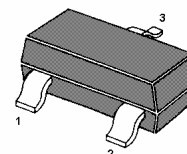


## MMBTSA733

### PNP Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into five groups R, O, Y, P and L, according to its DC current gain. As complementary type the NPN transistor MMBTSC945 is recommended.



1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	150	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to +150	$^\circ\text{C}$

Characteristics at  $T_{amb}=25\text{ }^{\circ}\text{C}$ 

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}=6\text{V}$ , $-I_C=1\text{mA}$					
Current Gain Group R	$h_{FE}$	40	-	80	-
O	$h_{FE}$	70	-	140	-
Y	$h_{FE}$	120	-	240	-
P	$h_{FE}$	200	-	400	-
L	$h_{FE}$	350	-	700	-
Collector Base Breakdown Voltage at $-I_C=100\mu\text{A}$	$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C=10\text{mA}$	$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E=10\mu\text{A}$	$-V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current at $-V_{CB}=60\text{V}$	$-I_{CBO}$	-	-	0.1	$\mu\text{A}$
Emitter Cutoff Current at $-V_{EB}=5\text{V}$	$-I_{EBO}$	-	-	0.1	$\mu\text{A}$
Collector Saturation Voltage at $-I_C=100\text{mA}$ , $-I_B=10\text{mA}$	$-V_{CE(sat)}$	-	-	0.3	V
Base Emitter Voltage at $-V_{CE}=6\text{V}$ , $-I_C=1\text{mA}$	$-V_{BE(on)}$	0.5	-	0.8	V
Gain Bandwidth Product at $-V_{CE}=6\text{V}$ , $-I_C=10\text{mA}$	$f_T$	50	180	-	MHz
Output Capacitance at $-V_{CB}=10\text{V}$ , $f=1\text{MHz}$	$C_{OB}$	-	2.8	-	pF
Noise Figure at $-V_{CE}=6\text{V}$ , $-I_C=0.3\text{mA}$ , $f=100\text{Hz}$ , $R_S=10\text{K}\Omega$	F	-	6	20	dB