

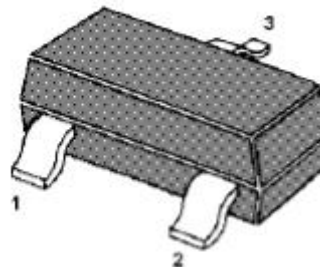
# Kingtronics®

## MMBTSC945

### NPN Silicon Epitaxial Planar Transistors

#### For switching and AF amplifier applications

The transistor is subdivided into four groups O, Y, P and L, according to its DC current gain. As complementary type the PHP transistor MMBTSA733 is recommended.



1.Base 2.Emitter 3.Collector

SOT-23 Plastic Package

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CB0}$	60	V
Collector Emitter Voltage	$V_{CE0}$	50	V
Emitter Base Voltage	$V_{EB0}$	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 $T_a = 25^\circ\text{C}$

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
DC Current Gain at $V_{CE} = 6\text{ V}$ , $I_c = 1\text{ mA}$	Current Gain Group O	70		140	
	Y	120	-	240	-
	P	200		400	
	L	350		700	
	Collector Base Cutoff Current at $V_{CB} = 40\text{ V}$	$I_{CBO}$	-	-	0.1
Emitter Base Cutoff Current at $V_{EB} = 3\text{ V}$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$
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 Emitter Saturation Voltage at $I_c = 100\text{ mA}$ , $I_B = 10\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Gain Bandwidth Product at $V_{CE} = 6\text{ V}$ , $I_c = 10\text{ mA}$	$f_T$	-	300	-	MHz
Output Capacitance at $V_{CB} = 6\text{ V}$ , $f = 1\text{ MHz}$	$C_{OB}$	-	2.5	-	pF

**Kingtronics® International Company**

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### RATINGS AND CHARACTERISTIC CURVES MMBTSC945

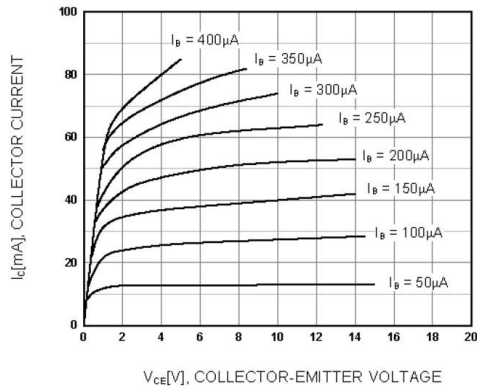


Figure 1. Static Characteristic

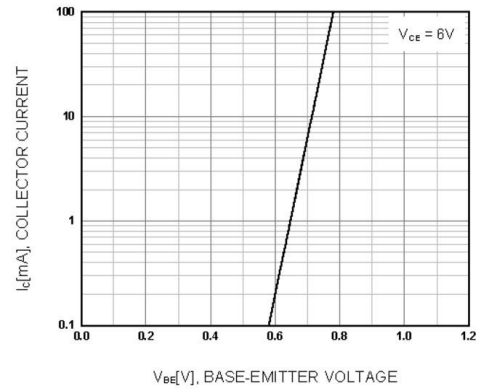


Figure 2. Transfer Characteristic

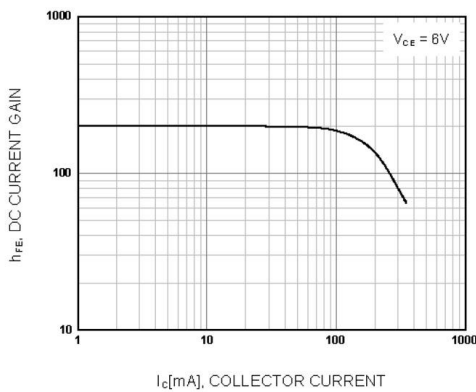


Figure 3. DC current Gain

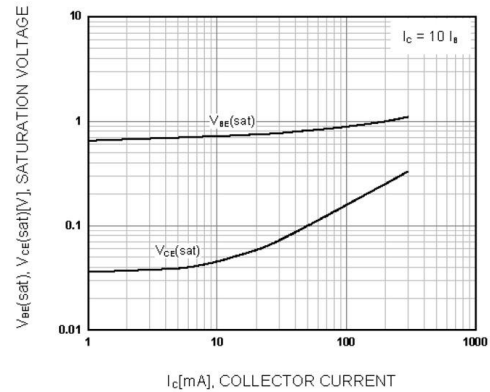


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

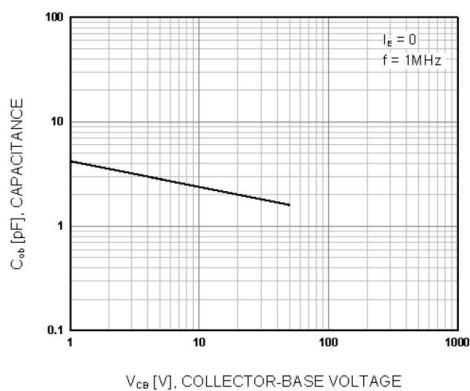


Figure 5. Output Capacitance

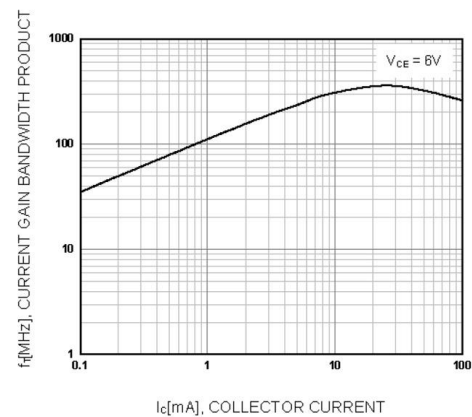


Figure 6. Current Gain Bandwidth Product

Note: Specifications are subject to change without notice.