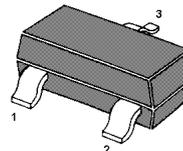


# MMBTSC3875

## NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into four groups O, Y, G and L, according to its DC current gain.



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	$V_{CB0}$	60	V
Collector Emitter Voltage	$V_{CE0}$	50	V
Emitter Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	150	mA
Base Current	$I_B$	30	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{Stg}$	-55 to +150	$^\circ\text{C}$

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6\text{V}$ , $I_C=2\text{mA}$					
Current Gain Group O	$h_{FE}$	70	-	140	-
Y	$h_{FE}$	120	-	240	-
G	$h_{FE}$	200	-	400	-
L	$h_{FE}$	300	-	700	-
Collector Emitter Saturation Voltage at $I_C=100\text{mA}$ , $I_B=10\text{mA}$	$V_{CE(sat)}$	-	-	0.25	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	$\mu\text{A}$
Transition Frequency at $V_{CE}=10\text{V}$ , $I_C=1\text{mA}$	$f_T$	80	-	-	MHz
Collector Output Capacitance at $V_{CB}=10\text{V}$ , $f=1\text{MHz}$	$C_{OB}$	-	2	3.5	pF
Noise Figure at $V_{CE}=6\text{V}$ , $I_C=0.1\text{mA}$ , $f=1\text{KHz}$ , $R_G=10\text{K}\Omega$	NF	-	1	10	dB

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