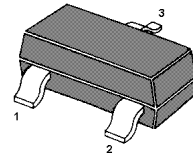


# MMBTSC3875

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

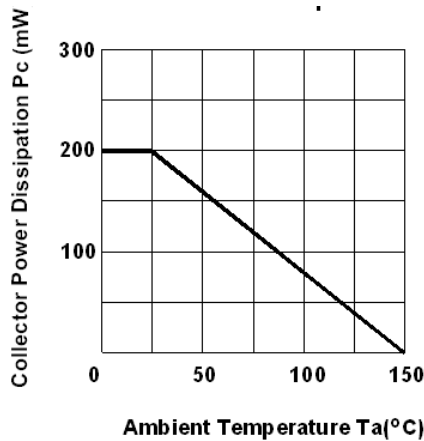
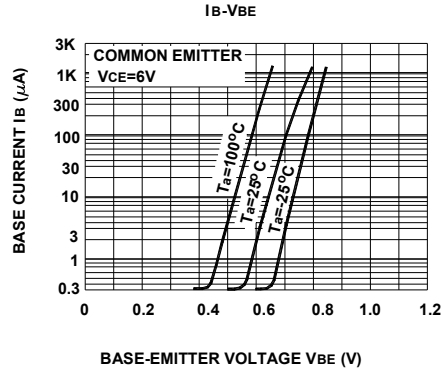
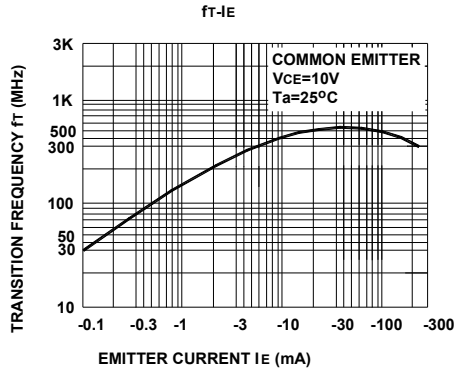
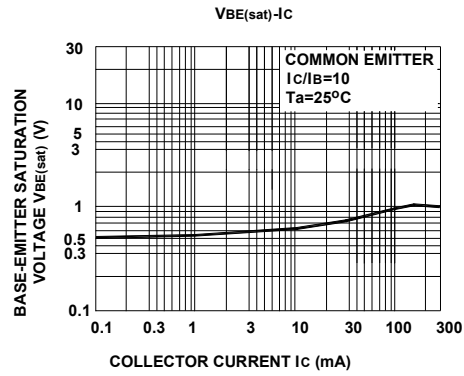
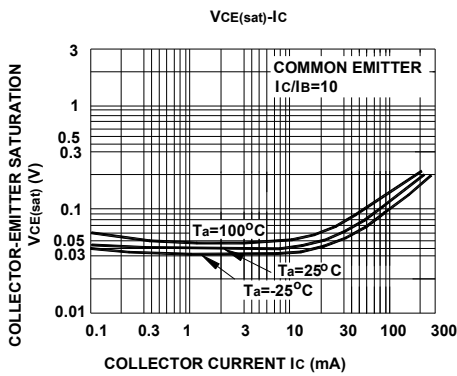
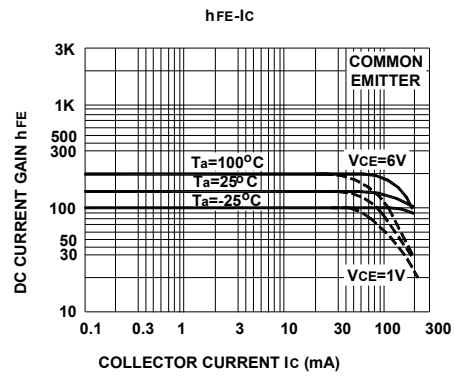
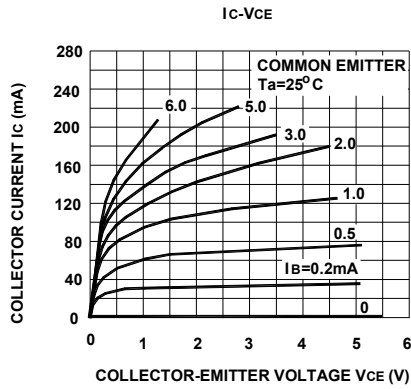
Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{\text{CBO}}$	60	V
Collector Emitter Voltage	$V_{\text{CEO}}$	50	V
Emitter Base Voltage	$V_{\text{EBO}}$	5	V
Collector Current	$I_{\text{C}}$	150	mA
Base Current	$I_{\text{B}}$	30	mA
Power Dissipation	$P_{\text{tot}}$	200	mW
Junction Temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $V_{\text{CE}} = 6\text{ V}$ , $I_{\text{C}} = 2\text{ mA}$ Current Gain Group	O	$h_{\text{FE}}$	70	140	-
	Y	$h_{\text{FE}}$	120	240	-
	G	$h_{\text{FE}}$	200	400	-
	L	$h_{\text{FE}}$	300	700	-
Collector Base Cutoff Current at $V_{\text{CB}} = 60\text{ V}$	$I_{\text{CBO}}$	-	100	nA	
Emitter Base Cutoff Current at $V_{\text{EB}} = 5\text{ V}$	$I_{\text{EBO}}$	-	100	nA	
Collector Base Breakdown Voltage at $I_{\text{C}} = 100\ \mu\text{A}$	$V_{(\text{BR})\text{CBO}}$	60	-	V	
Collector Emitter Breakdown Voltage at $I_{\text{C}} = 1\text{ mA}$	$V_{(\text{BR})\text{CEO}}$	50	-	V	
Emitter Base Breakdown Voltage at $I_{\text{E}} = 10\ \mu\text{A}$	$V_{(\text{BR})\text{EBO}}$	5	-	V	
Collector Emitter Saturation Voltage at $I_{\text{C}} = 100\text{ mA}$ , $I_{\text{B}} = 10\text{ mA}$	$V_{\text{CE}(\text{sat})}$	-	0.25	V	
Transition Frequency at $V_{\text{CE}} = 10\text{ V}$ , $I_{\text{C}} = 1\text{ mA}$	$f_{\text{T}}$	80	-	MHz	
Collector Output Capacitance at $V_{\text{CB}} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{\text{ob}}$	-	3.5	pF	

**TOP DYNAMIC**

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