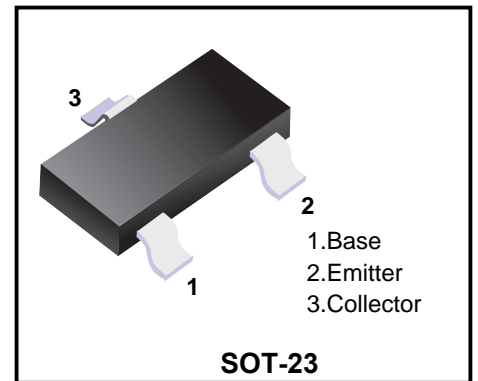


**NPN Silicon Epitaxial Planar Transistor**

for switching and AF amplifier applications.

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


**Marking Code**

MMBTSC3875O	ALO
MMBTSC3875Y	ALY
MMBTSC3875G	ALG
MMBTSC3875L	ALL

**Absolute Maximum Ratings(Ta= 25℃ )**

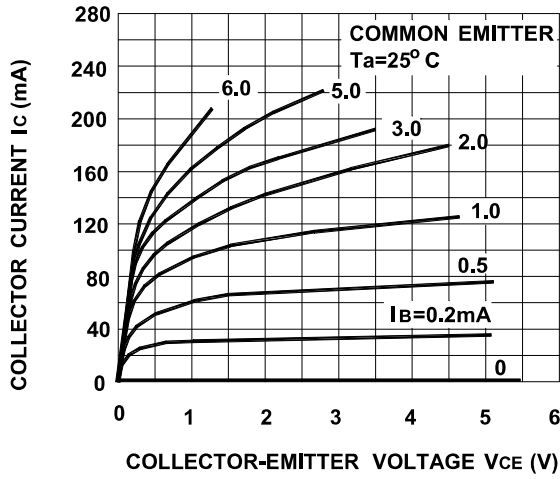
Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	60	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	150	mA
Base Current	$I_B$	30	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_s$	-55 to +150	°C

**Characteristics at T<sub>amb</sub>=25 °C**

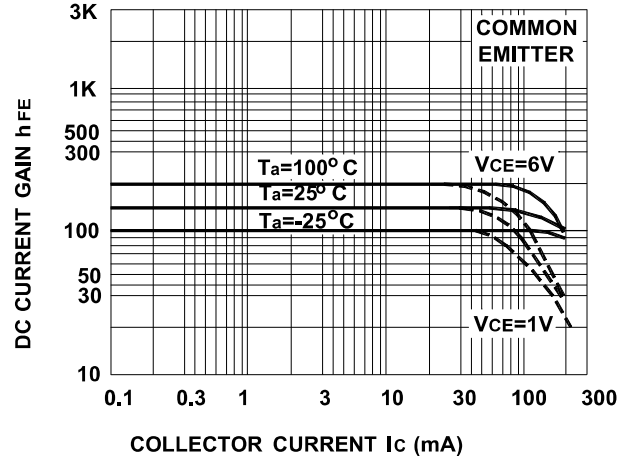
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=6V, I_C=2mA$					
Current Gain Group O	$h_{FE}$	70	-	140	-
Y	$h_{FE}$	120	-	240	-
G	$h_{FE}$	200	-	400	-
L	$h_{FE}$	300	-	700	-
Collector Emitter Saturation Voltage at $I_C=100mA, I_B=10mA$	$V_{CE(sat)}$	-	-	0.25	V
Collector Cutoff Current at $V_{CB}=60V$	$I_{CBO}$	-	-	0.1	μA
Emitter Cutoff Current at $V_{EB}=5V$	$I_{EBO}$	-	-	0.1	μA
Transition Frequency at $V_{CE}=10V, I_C=1mA$	$f_T$	80	-	-	MHz
Collector Output Capacitance at $V_{CB}=10V, f=1MHz$	$C_{OB}$	-	2	3.5	pF
Noise Figure at $V_{CE}=6V, I_C=0.1mA, f=1KHz, R_G=10K\Omega$	NF	-	1	10	dB

Typical Characteristics

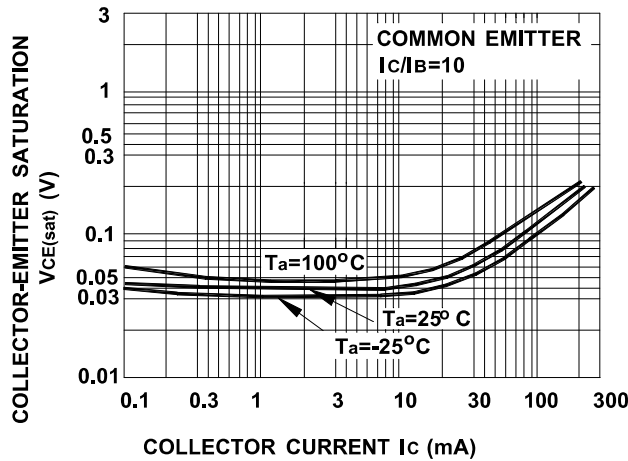
**I<sub>c</sub>-V<sub>CE</sub>**



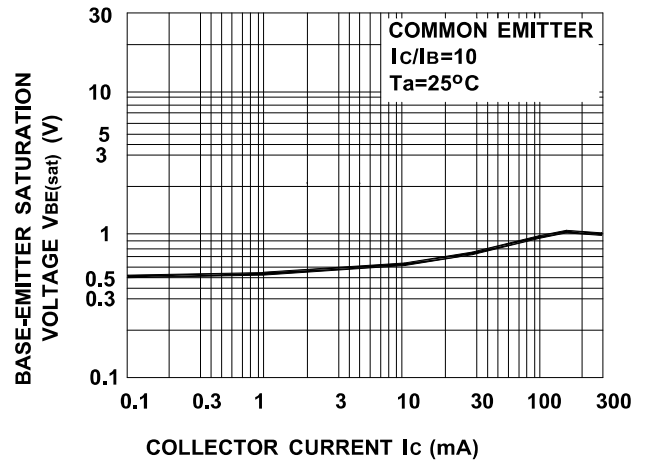
**h<sub>FE</sub>-I<sub>c</sub>**



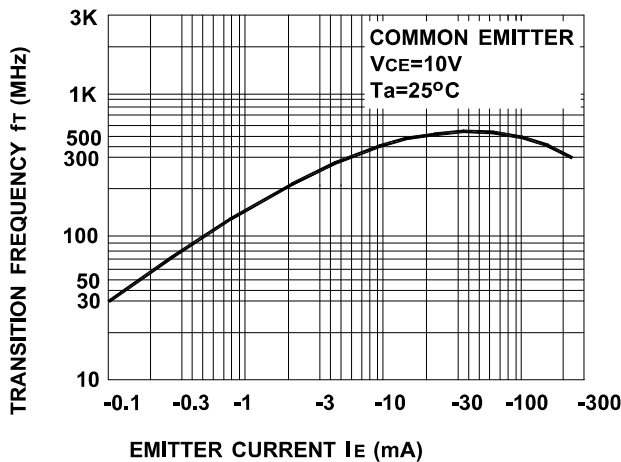
**V<sub>CE(sat)</sub>-I<sub>c</sub>**



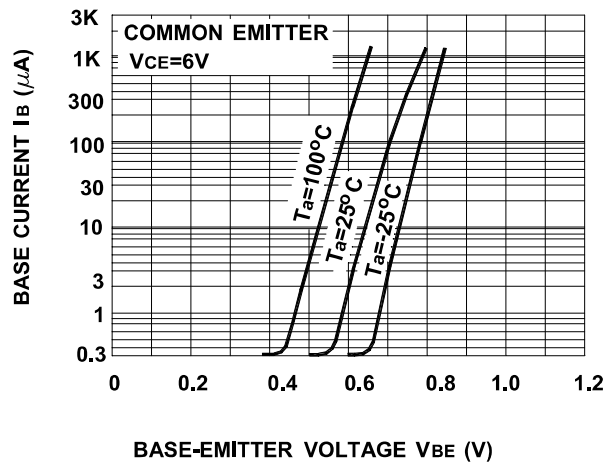
**V<sub>BE(sat)</sub>-I<sub>c</sub>**

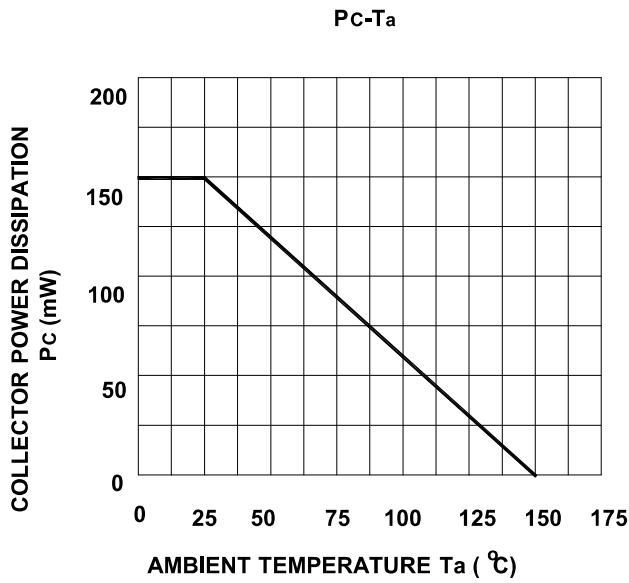
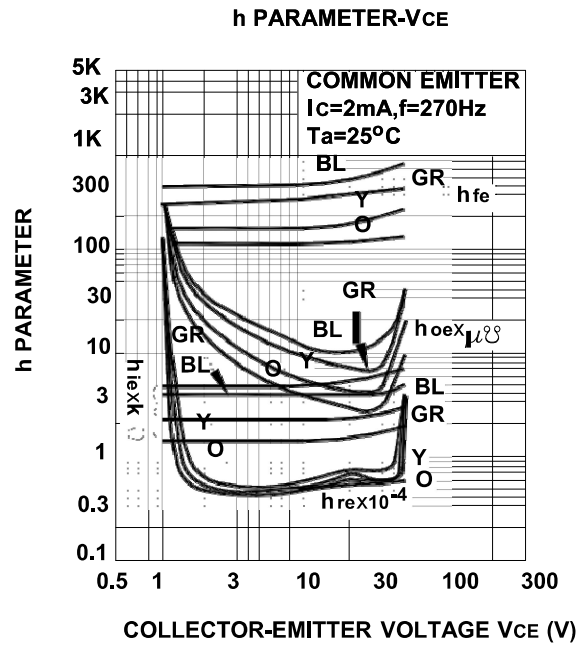
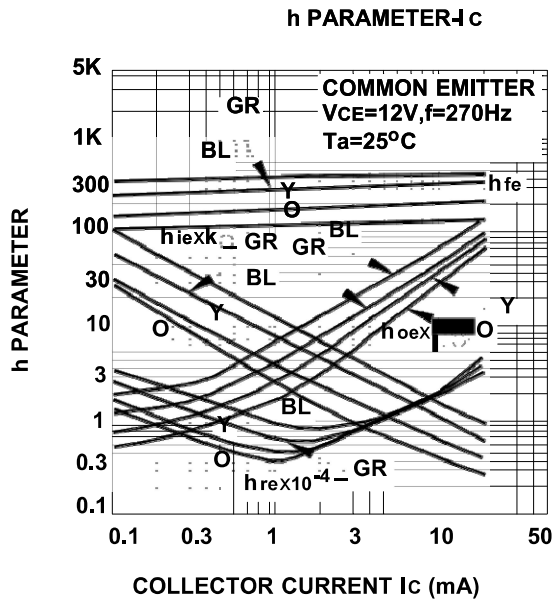


**f<sub>t</sub>-I<sub>E</sub>**



**I<sub>B</sub>-V<sub>BE</sub>**





**Ordering information**

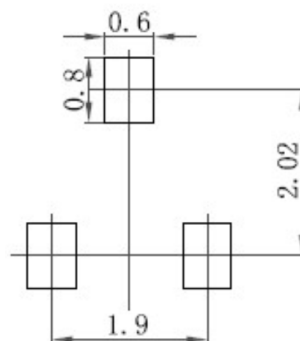
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-23**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

**The recommended mounting pad size**



## Disclaimer

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