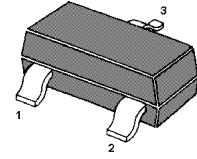


NPN Silicon Epitaxial Planar Transistor

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

Marking Code	
MMBTSC3875O	ALO
MMBTSC3875Y	ALY
MMBTSC3875G	ALG
MMBTSC3875L	ALL

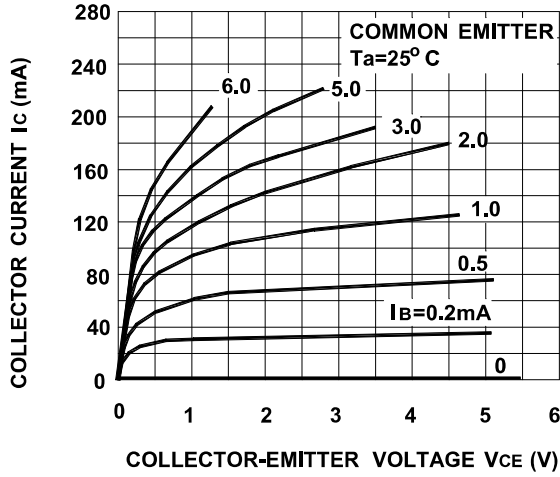
Absolute Maximum Ratings(Ta= 25℃)

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

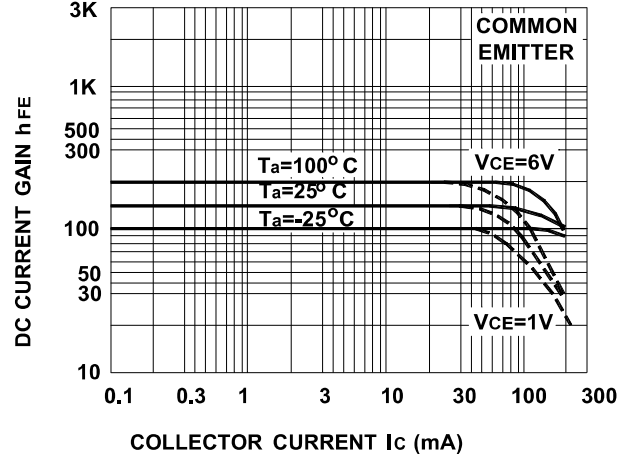
Characteristics at T_{amb}=25 °C

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

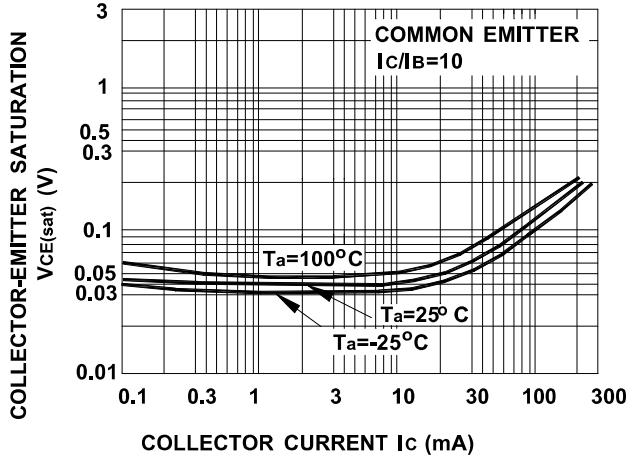
I_c-V_{CE}



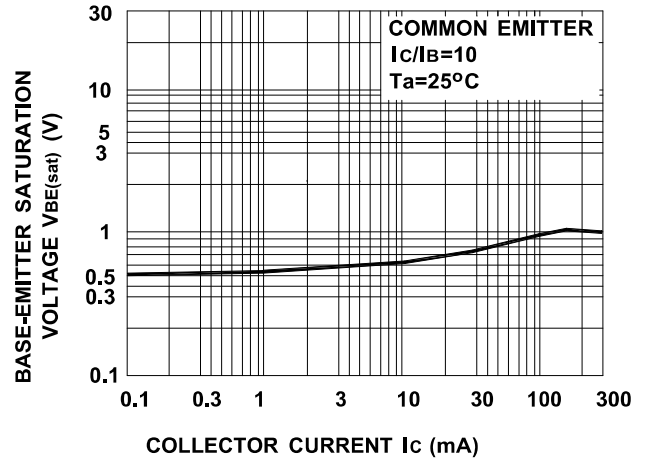
h_{FE}-I_c



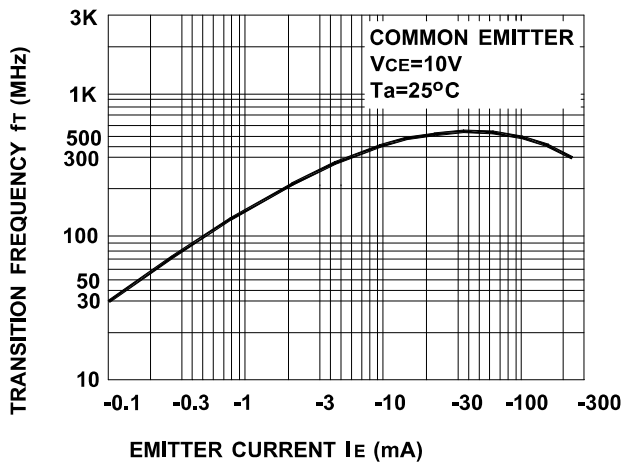
V_{CE(sat)}-I_c



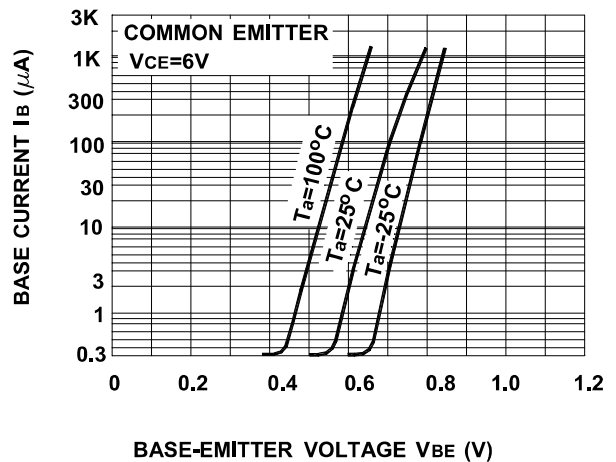
V_{BE(sat)}-I_c

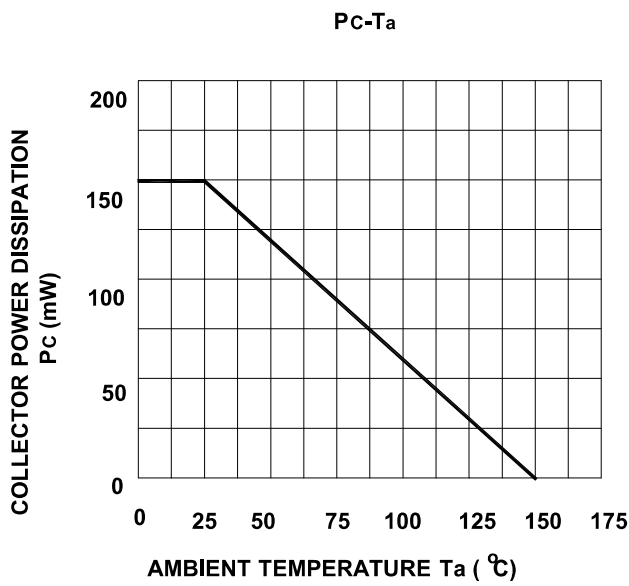
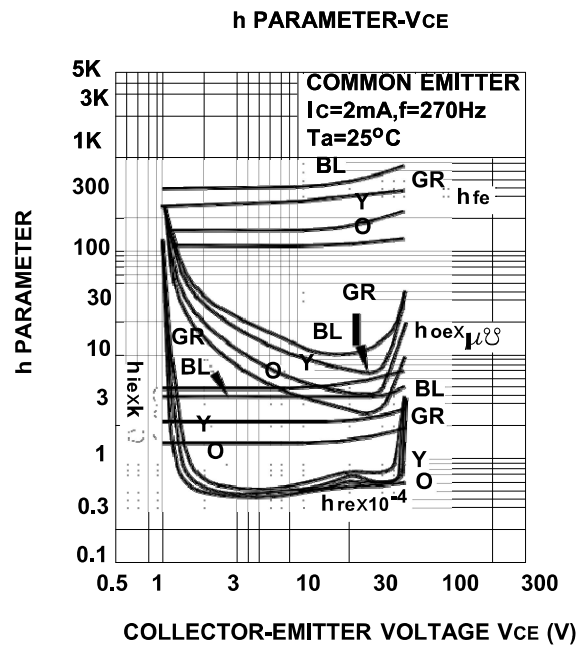
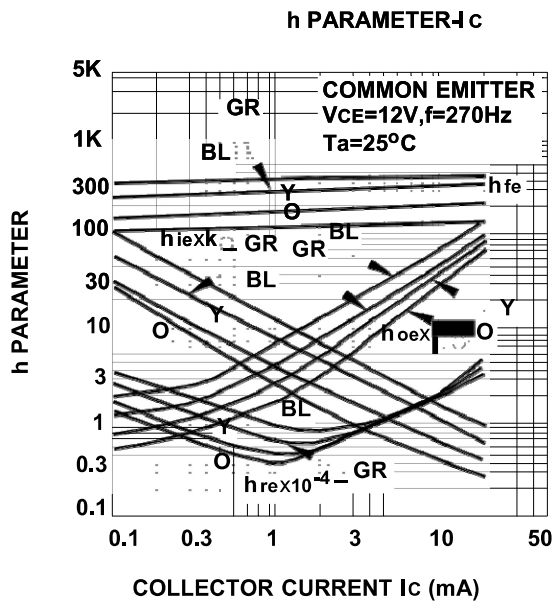


f_t-I_E



I_B-V_{BE}

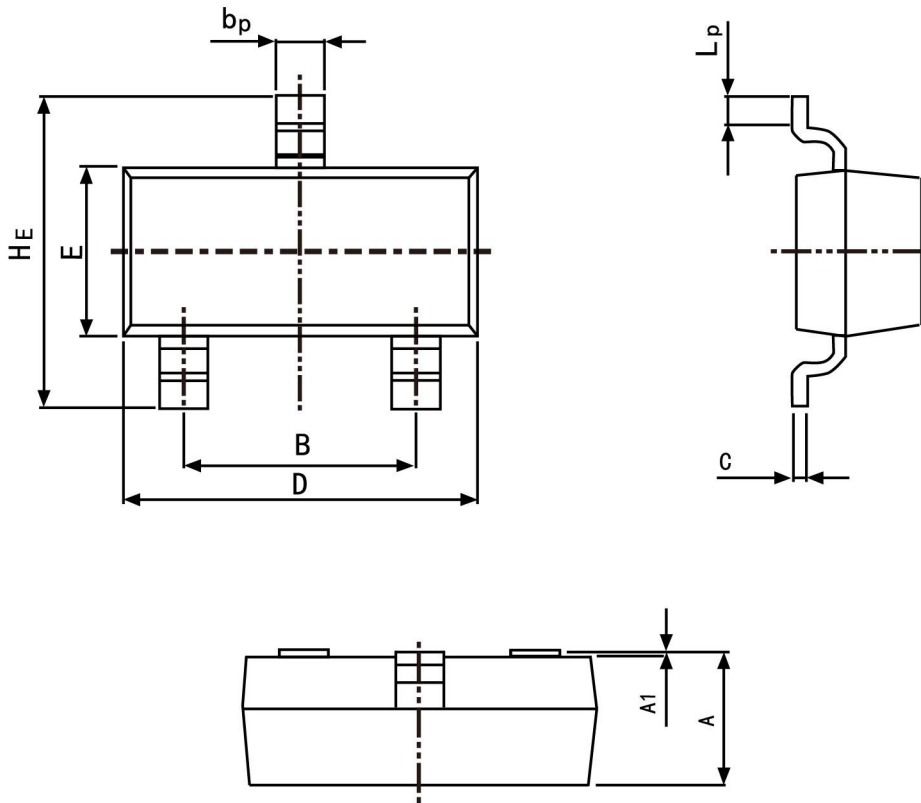




Package Outline

SOT-23

Plastic surface mounted package; 3 leads



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1