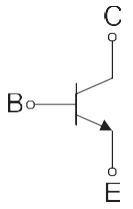
MMBTSC2383 TRANSISTOR (NPN)

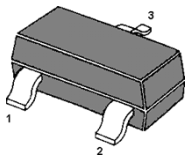
SOT-23 Plastic-Encapsulate Transistors

FEATURE

- High Voltage: V_{CEO}=160V
- Large Continuous Collector Current Capability
- Complementary to MMBTSA1013

Equivalent Circuit





1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

MARKING:2383

MAXIMUM RATINGS (T_a=25 ℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1	A
P_C	Collector Power Dissipation	0.5	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55 to +150	℃

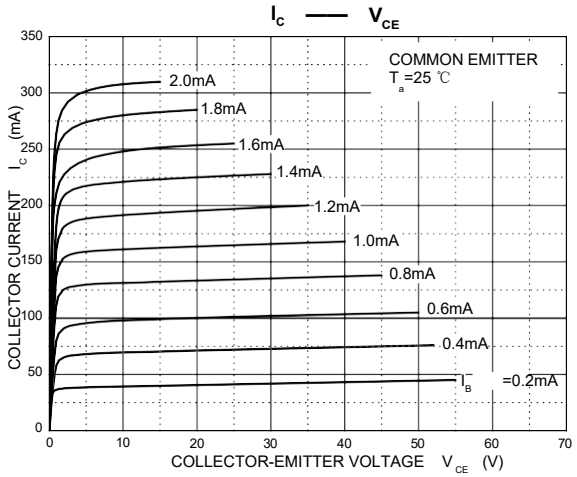
ELECTRICAL CHARACTERISTICS T_a=25 ℃ unless otherwise specified

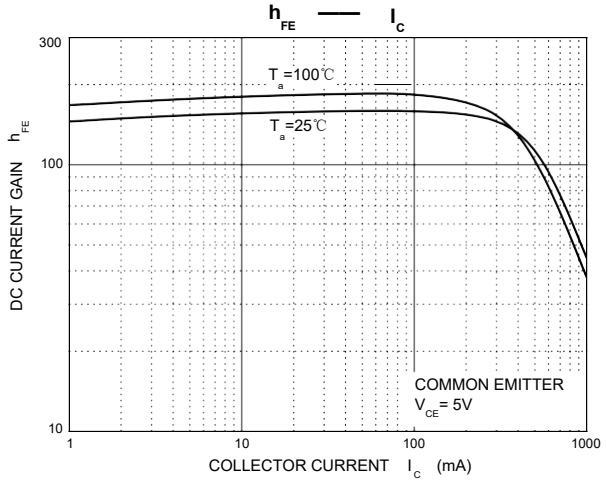
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V(BR)_{CBO}$	I_C= 100μA , I_E=0	160		V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	I_C= 10mA, I_B=0	160		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= 10μA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=150V, I_E=0		1	μA
Collector cut-off current	I_{CER}	V_{CB}=150V,R_{EB}= 10MΩ		10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V, I_C=0		1	μA
DC current gain	h_{FE1}	V_{CE}=5V, I_C=200m	60	320	
	h_{FE2}	V_{CE}=5V, I_C=10mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500m A, I_B=50mA		1	V
Base-emitter voltage	V_{BE}	I_C=5mA, V_{CE}= 5V		0.75	V
Transition frequency	f_T	V_{CE}=5V, I_C=200mA	20		MHz

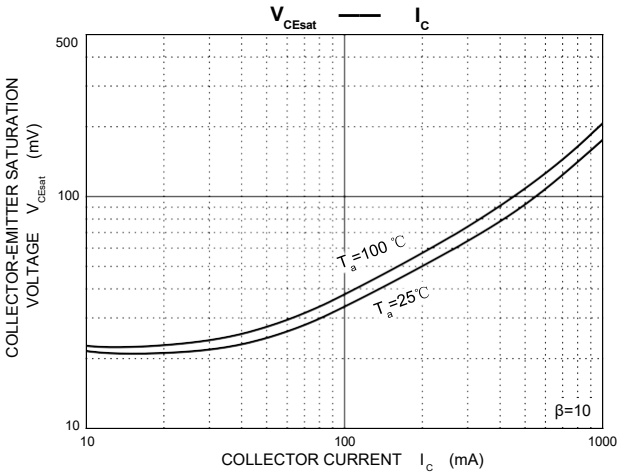
CLASSIFICATION OF h_{FE1}

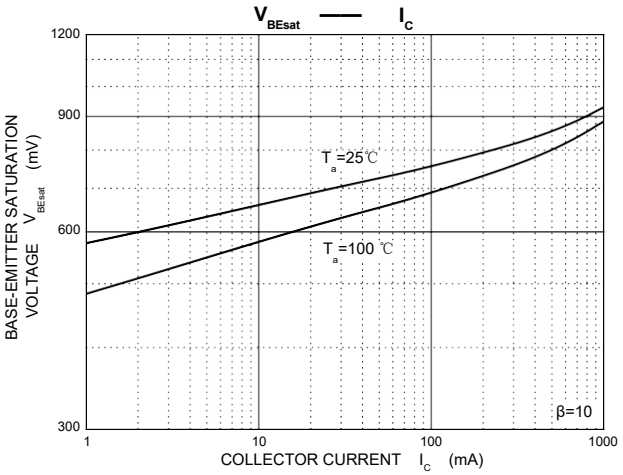
Rank	R	O	Y
Range	60-120	100-200	160-320

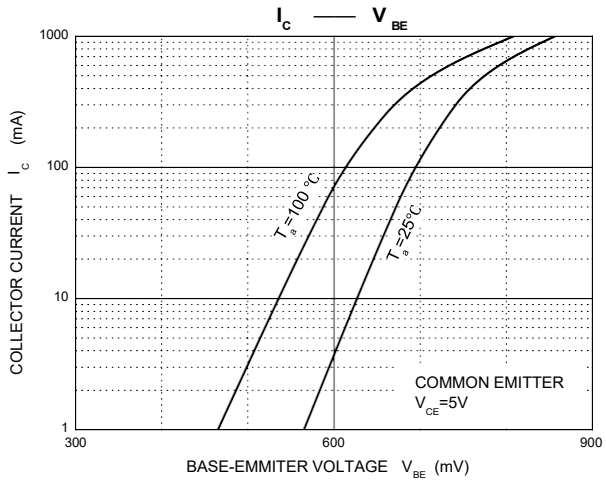
Typical Characteristics

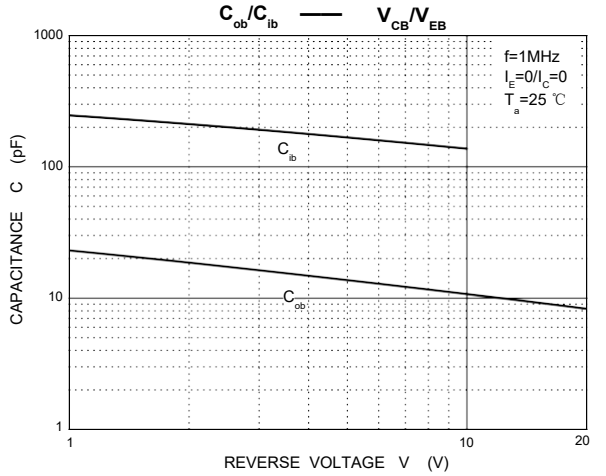






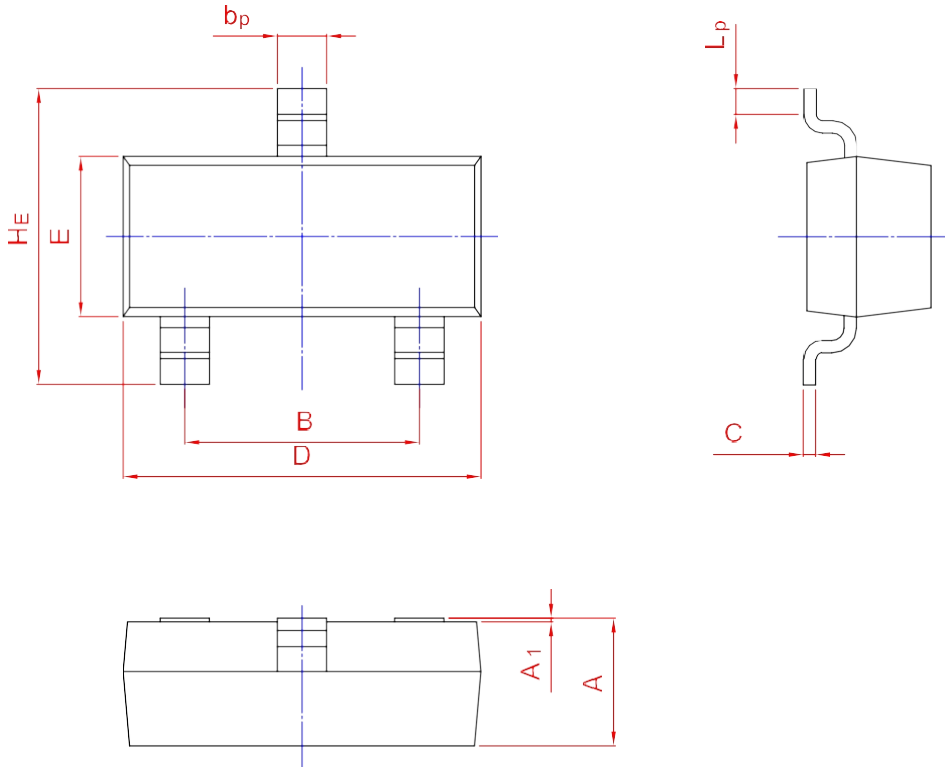






PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20