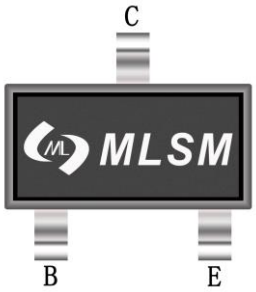
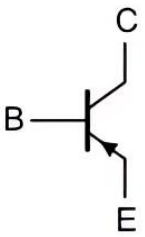
Features

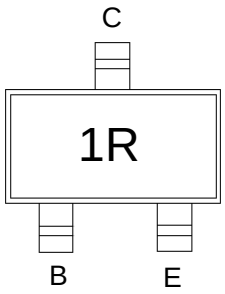
- SmallPackageLow $V_{CE(sat)}$
- High collector current capability I_C and I_{CM}
- High collector current gain (h_{FE}) at high I_C
- High efficiency duet olessheatgeneration
- Required Small Printed-Circuit Board (PCB) area
- Complementary to MLS2515



SOT-523 top view



Schematic diagram



Marking and pin assignment

Pb-Free RoHS Halogen-Free

Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-15	V
V_{CEO}	Collector-Emitter Voltage	-15	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-0.5	A
I_{CM}	CollectorCurrent-Peak	-1	A
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	°C/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

Ordering Information (Example)

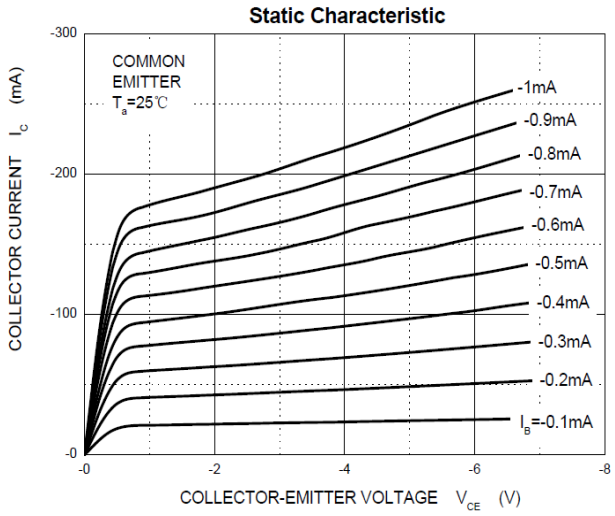
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MLS3515	SOT-523	1R	3,000	45,000	180,000	7"reel

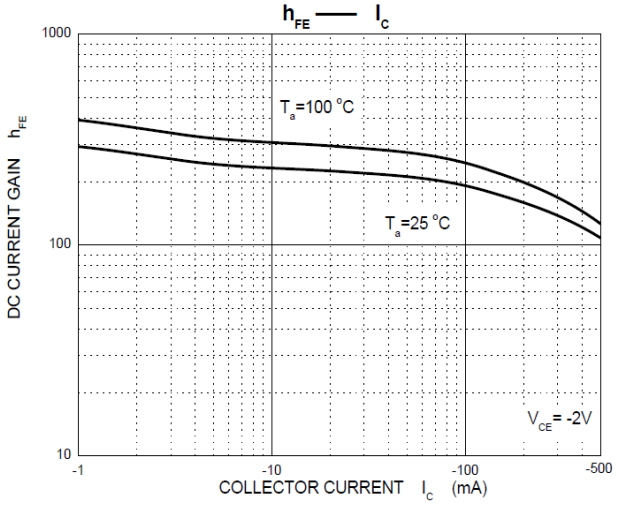
Electrical Characteristics (Ta=25℃ unless otherwise specified)

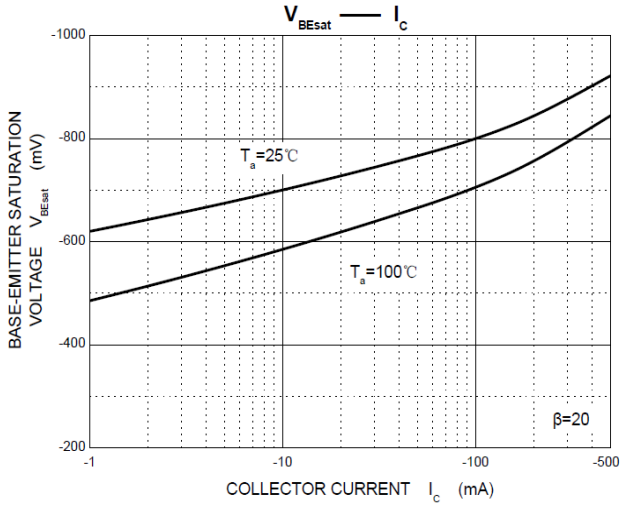
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=-0.1mA,I_E=0	-15	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=-10mA, I_B=0	-15	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=-0.1mA,I_C=0	-6	--	--	V
I_{EBO}	Emitter cut-off current	V_{EB}=-5V , I_C=0	--	--	-100	nA
I_{CEO}	Collector cut-off current	V_{CE}=-15V, I_B=0	--	--	-100	nA
$H_{FE(1)}$*	DC current gain	V_{CE}=-2V,I_C=-10mA	200	--	500	
$H_{FE(2)}$*		V_{CE}=-2V,I_C=-100mA	150	--	500	
$H_{FE(3)}$*		V_{CE}=-2V,I_C=-500mA	90	--	--	
$V_{CE(sat)1}$*	Collector-emitter saturation voltage	I_C=-10mA, I_B=-0.5mA	--	--	0	mV
$V_{CE(sat)2}$*		I_C=-200mA,I_B=-10mA	--	--	-150	mV
$V_{CE(sat)3}$*		I_C=-500mA,I_B=-50mA	--	--	-250	mV
$V_{BE(sat)}$*	Base-emitter saturation voltage	I_C=-500mA,I_B=-50mA	--	--	-1.1	V
$V_{BE(on)}$*	Base-emittervoltage	V_{CE}=-2V,I_C=-100mA	--	--	-0.9	V
f_T	Transition frequency	V_{CE}=-5V,I_C=-100mA, f=100MHz	100	--	--	MHz

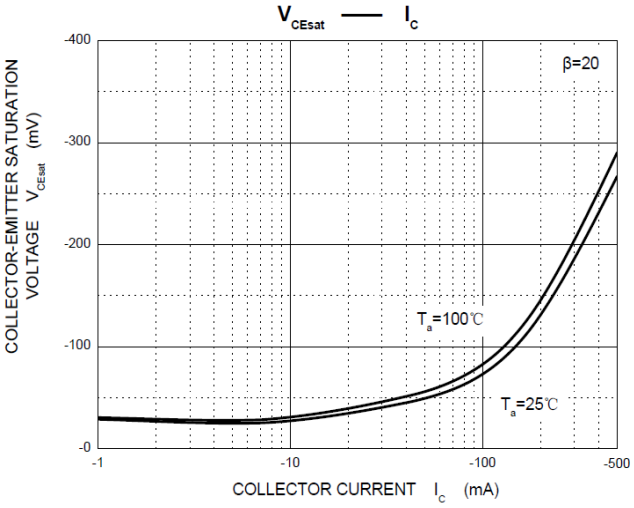
*Pulsetest:pulsewidth≤300μs,dutycycle≤2.0%.

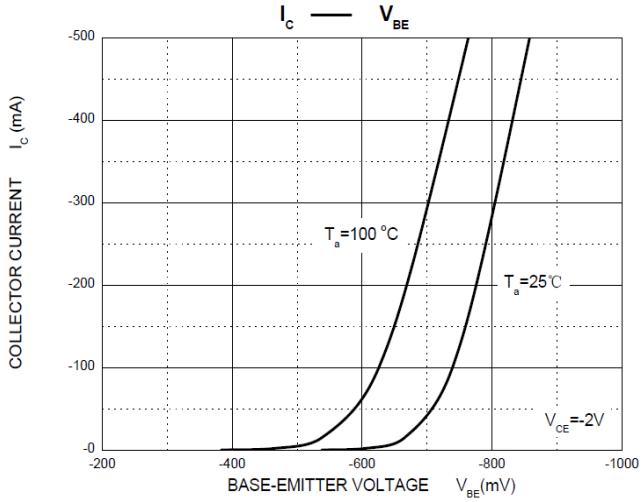
Typical Characteristics

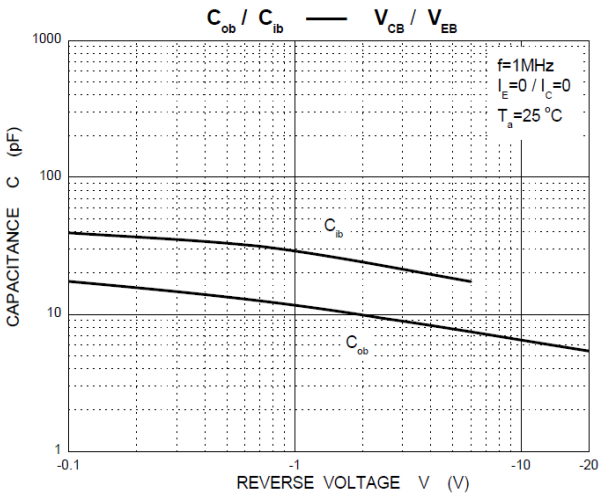


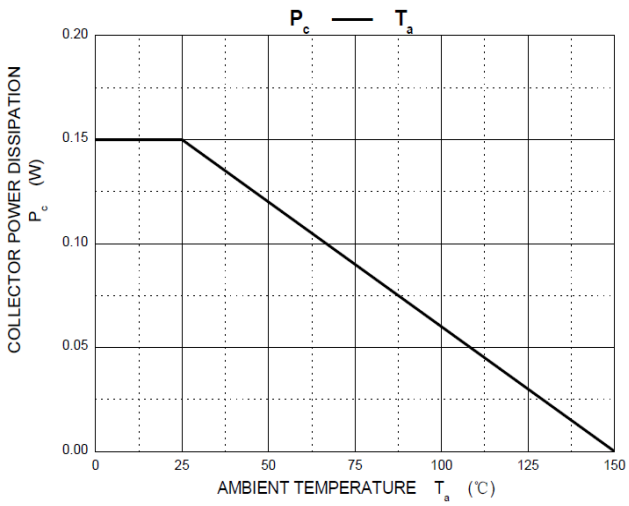




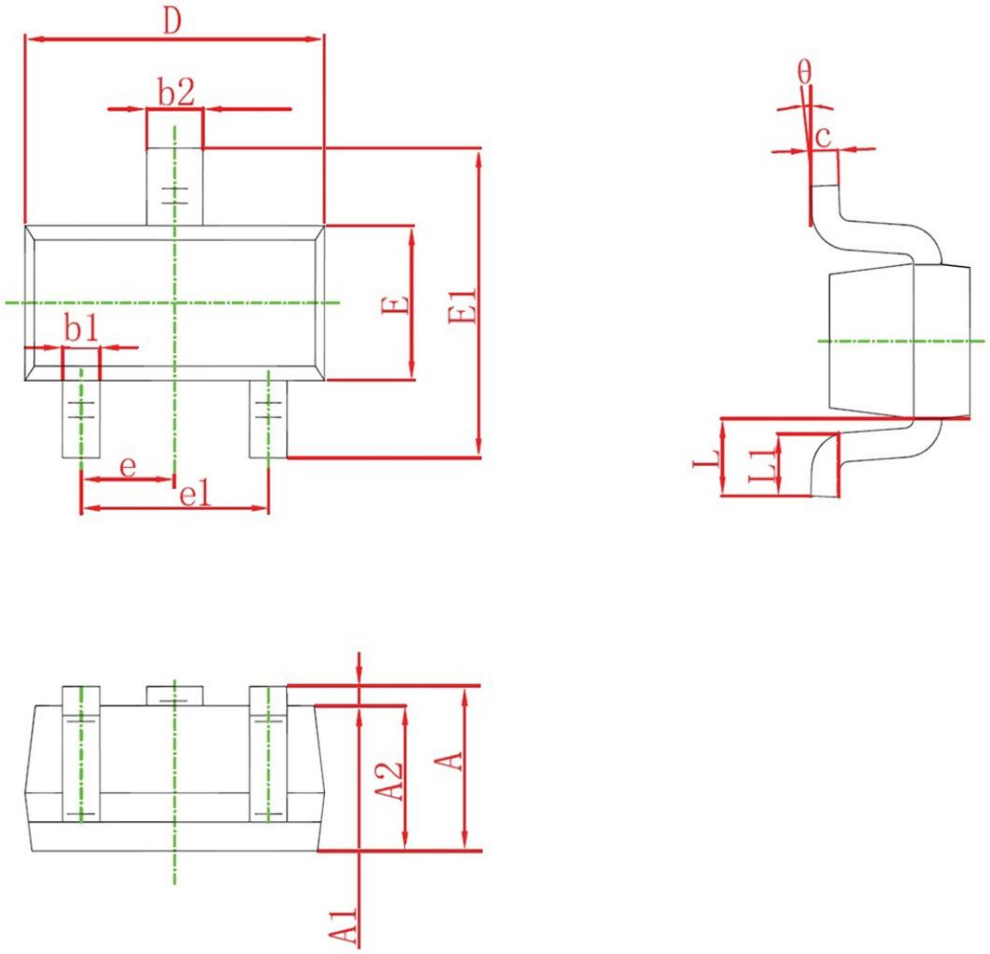








SOT-523 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500TYP		0.020TYP	
e1	0.900	1.100	0.035	0.043
L	0.400REF		0.016REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°