

Descriptions

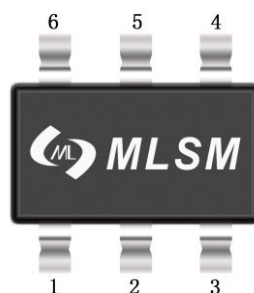
The device is manufactured in low voltage PNP Planar Technology with "Base Island" layout. The resulting transistor shows exceptional high gain performance coupled with very low saturation voltage.

Features

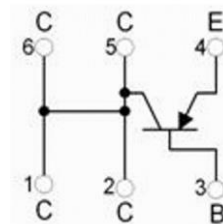
- Very low collector to emitter saturation voltage

Applications

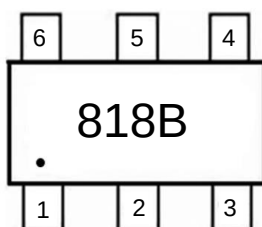
- Power management in portable equipments
- Switching regulator in battery charge applications



SOT-23-6L top view



Schematic diagram



Marking and pin assignment



Halogen-Free

Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-3	mA
P_C	Collector Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	357	$^{\circ}\text{C/W}$
P_{tot}	Total Dissipation at $T_C = 25^{\circ}\text{C}$ (note 1)	1.2	W
$R_{\theta JC}$	Thermal Resistance from Junction to Case (note 1)	104.2	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

Note 1: Package mounted on FR4 PCB 25mm x 25mm.

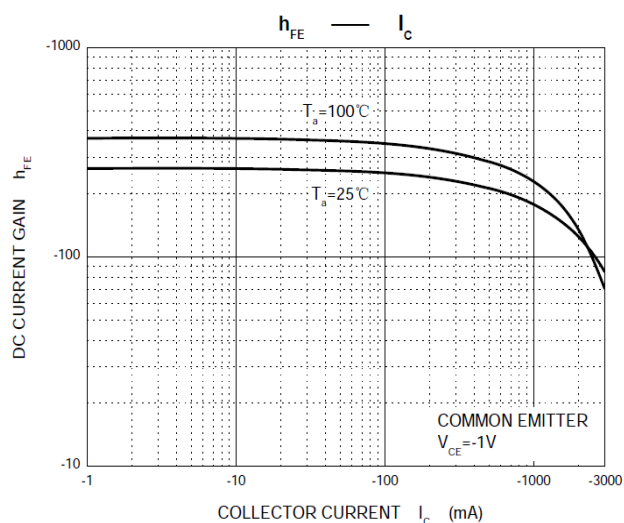
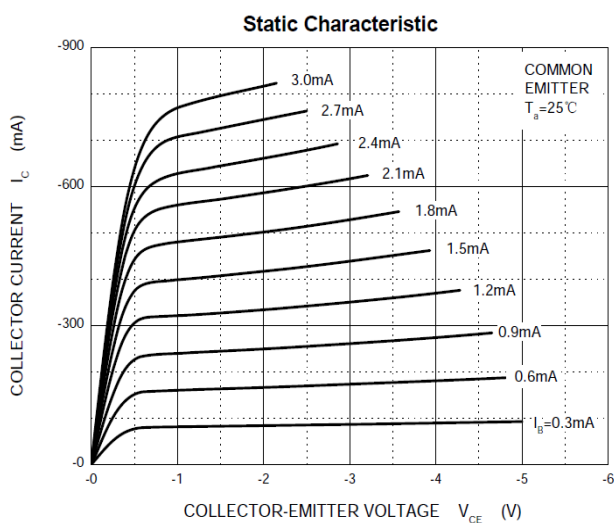
Ordering Information (Example)

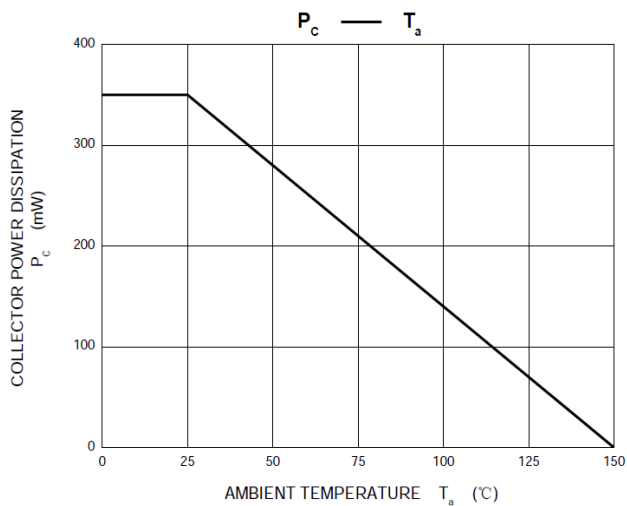
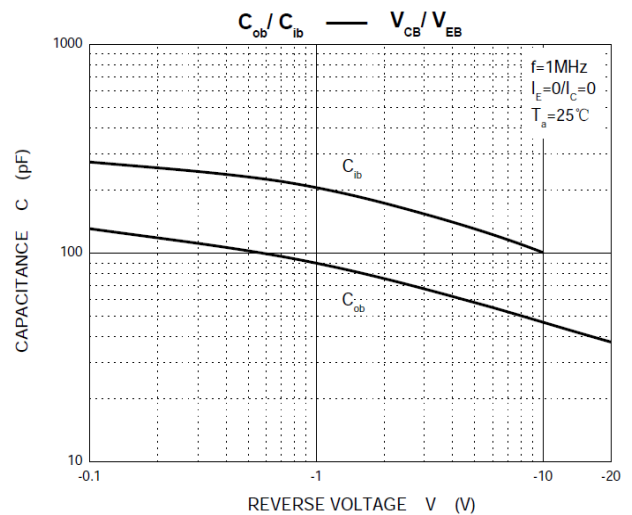
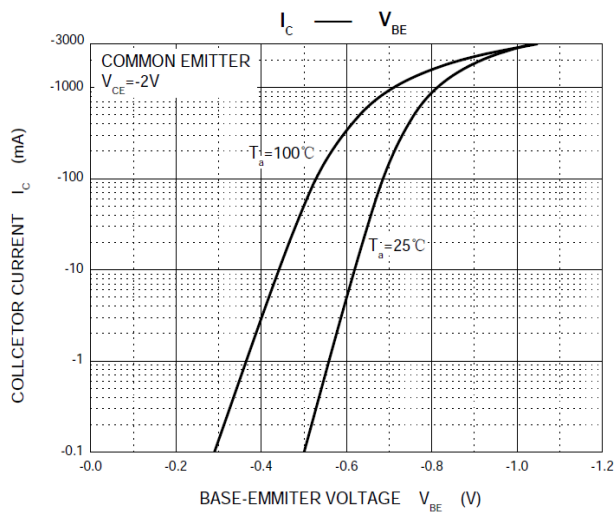
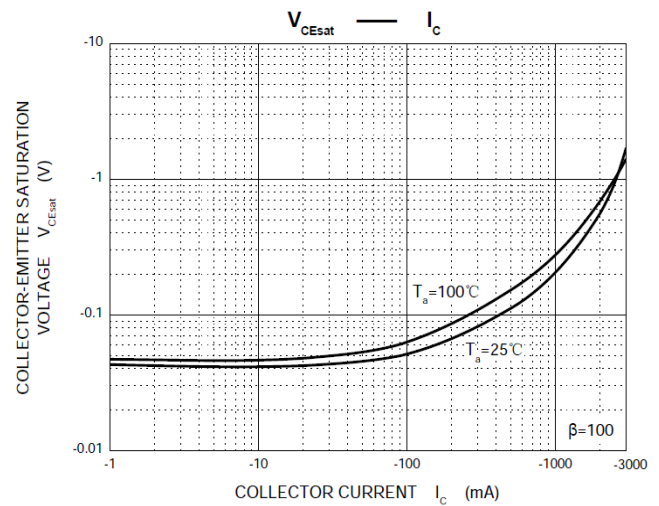
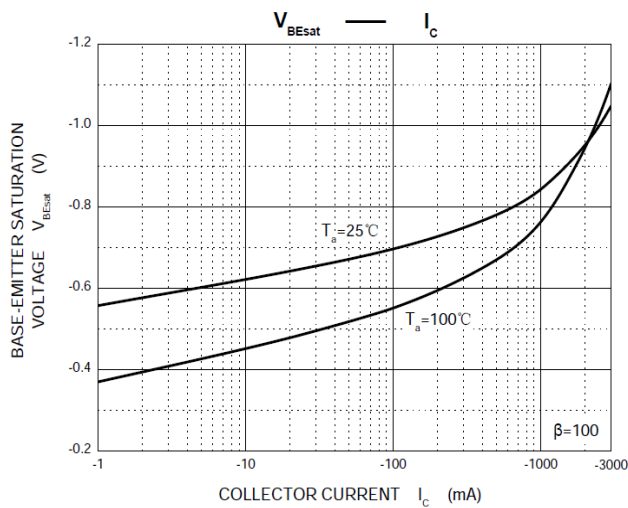
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MLS818B	SOT-23-6L	818B	3,000	45,000	180,000	7"reel

Electrical Characteristics (Ta=25°C unless otherwise specified)

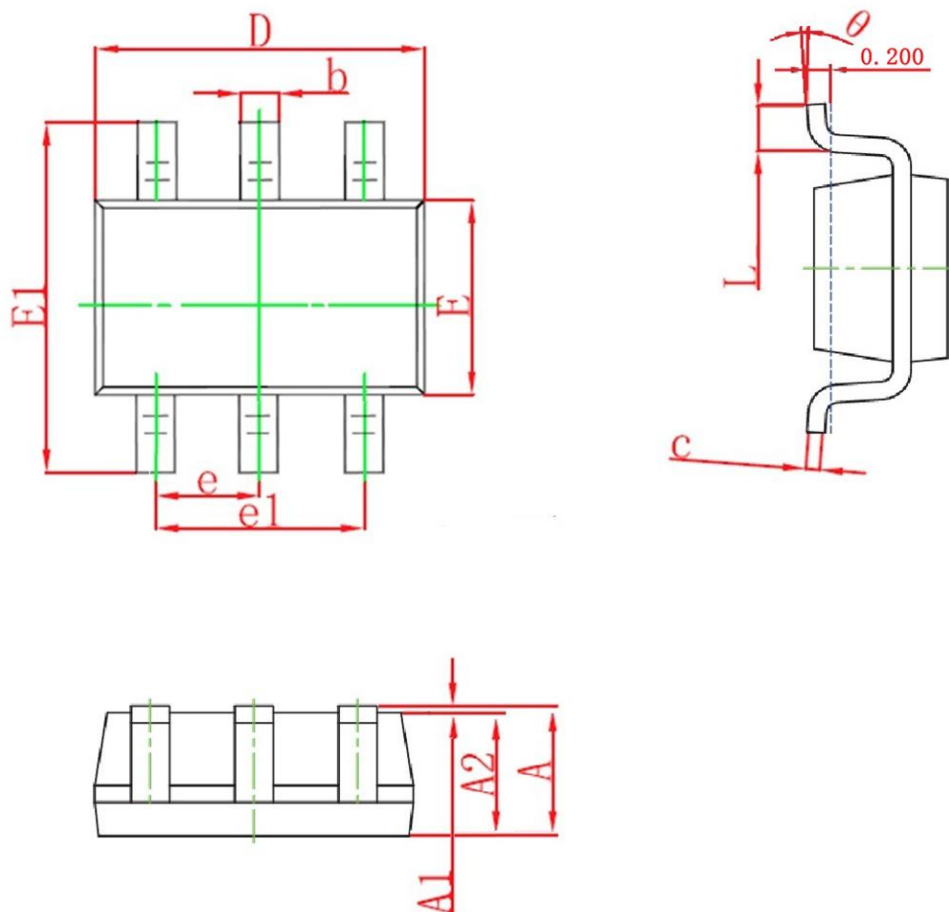
Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -100\mu A, I_E = 0$	-30	--	--	V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C = -10mA, I_B = 0$	-30	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	-5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB} = -30V, I_E = 0$	--	--	-0.1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5V, I_C = 0$	--	--	-0.1	μA
H_{FE}^*	DC current gain	$V_{CE} = -1V, I_C = -0.5A$	100	--	--	--
		$V_{CE} = -3V, I_C = -2.5A$	100	--	--	
$V_{CE(sat)}^*$	Collector-emitter saturation voltage	$I_C = -0.5A, I_B = -5mA$	--	--	-0.15	V
		$I_C = -1.2A, I_B = -12mA$	--	--	-0.45	V
		$I_C = -2A, I_B = -20mA$	--	--	-0.8	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C = -0.5A, I_B = -5mA$	--	--	-1.1	V
		$I_C = -1.2A, I_B = -12mA$	--	--	-1.1	V
		$I_C = -2A, I_B = -20mA$	--	--	-1.2	V
$V_{BE(on)}^*$	Base-emitter on voltage	$I_C = -0.5A, V_{CE} = -2V$	--	--	-1.1	V

*Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

Typical Characteristics




SOT-23-6L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.000	1.200	0.039	0.047
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.600	3.000	0.102	0.118
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
K	0°	8°	0°	8°