上海贝岭 SHANGHAI BELLING

BL8595

18V/1A PNP with N-MOSFET CHARGE IC

DESCRIPTION

BL8595 is designed for battery charging controller with patent BICMOS process, which features PNP characteristics and a NMOS for base current blocking. Such base current blocking feature cut off the base current of PNP transistor when source current of NMOS is removed, or the gate voltage indicating the NMOS off.

BL8595 is also suitable for high side switch in a system with multi power supplies, when isolating different power supplies becomes essential.

BL8595 can block reverse voltage as high as 10V. So it is safe enough for mobile phone system or other portable device powered by 1 cell Li-ion battery.

BL8595 is available in SOT23-6L.

FEATURES

- Range of operation input voltage: Max 18V
- Charging current up to 1A
- Operation dropout voltage:0.3V@500mA
- High isolating N-MOSFET
- Package type:SOT23-6
- Environment Temperature: -20°C~85°C

APPLICATIONS

- Cell phone and other portable device

ORDERING INFORMATION

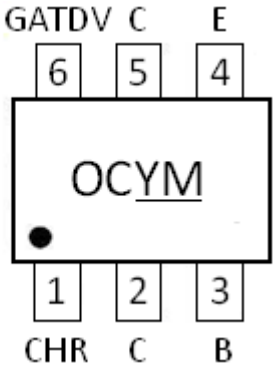
BL8595 [1][2][3]

Code	Description
[1]	Temperature&Rohs: C:-40~85°C ,Pb Free Rohs Std.
[2]	Package type: B6:SOT-23-6
[3]	Packing type: TR:Tape&Reel (Standard)

PIN CONFIGURATION

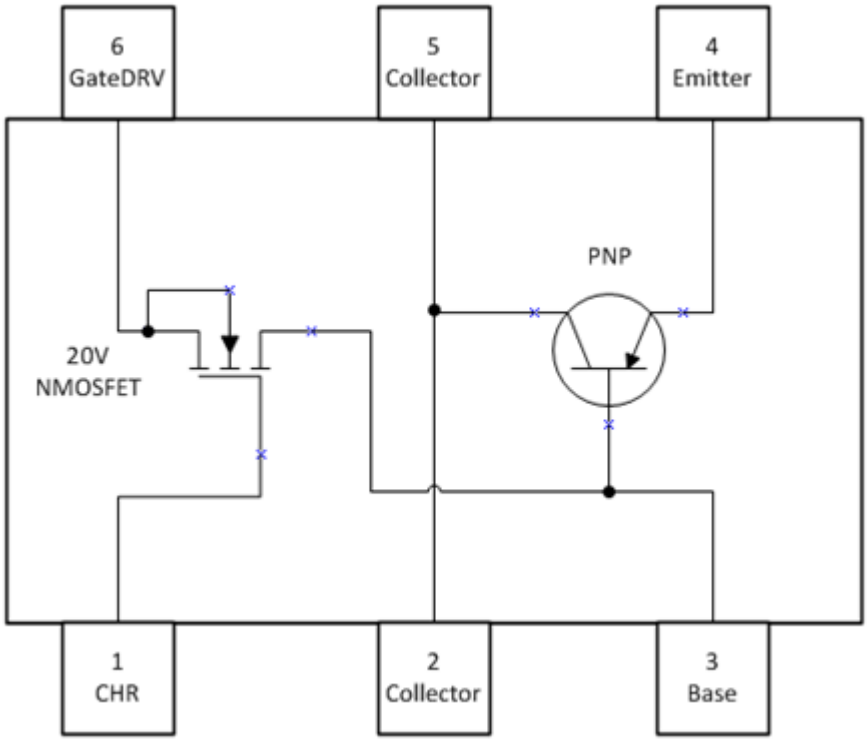
BL8595CB6TR (SOT23-6)	Symbol	Description
1	CHR	NMOS Gate
2	C	PNP Collect
3	B	PNP Base (NMOS Drain)
4	E	PNP Emit
5	C	PNP Collect
6	GATDV	NMOS Source

MARKING

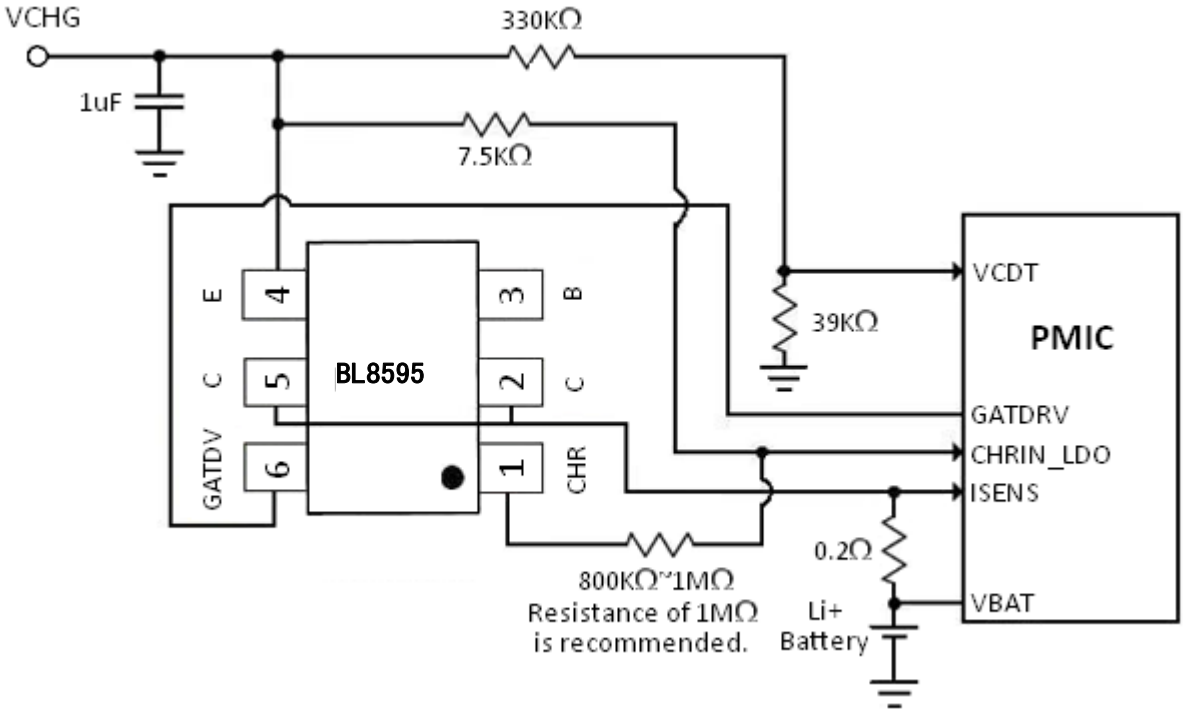


Notice: *YW means the year and week parts being manufactured, subjected to change. OC is the code of the product, it will not be changed on any part.*

FUNCTION DIAGRAM



TYPICAL APPLICATION CIRCUIT



ABSOLUTE MAXIMUM RATING

Parameter	Symbol	5 sec	Steady State	Unit
Collector-base Voltage(I_E=0) (PNP)	V_{CB0}	-18		V
Collector-emitter Voltage(I_B=0) (PNP)	V_{CE0}	-18		V
Emitter-base Voltage(I_C=0) (PNP)	V_{EB0}	-10		V
Collector Current (PNP)	I_C	1.5	1	A
Base Current (PNP)	I_B	-0.2	-0.1	A
Forward Voltage(Source-Drain) (MOSFET)	V_{SD}	-20		V
Gate-Source Voltage (MOSFET)	V_{GS}	20		
Source Current (MOSFET)	I_S	-0.15	-0.1	A
Maximum Power Dissipation	P_D	1.5	1	W
Operating Junction Temperature Range	T_J	−20 to 125		°C
Storage Temperature Range	T_{stg}	-40 to 150		
Soldering Recommendations (Peak Temperature)		260(<10s)		

THERMAL RESISTANCE RATING

Parameter		Device	Symbol	Typ	Max	Unit
Junction-to-Ambient	t ≤ 5 sec	SOT23-6	R_{thJA}	90	105	°C /W
	Steady State	SOT23-6		120	150	
Junction to Case	Steady State	SOT23-6	R_{thJC}	60	80	

ELECTRICAL CHARACTERISTICS

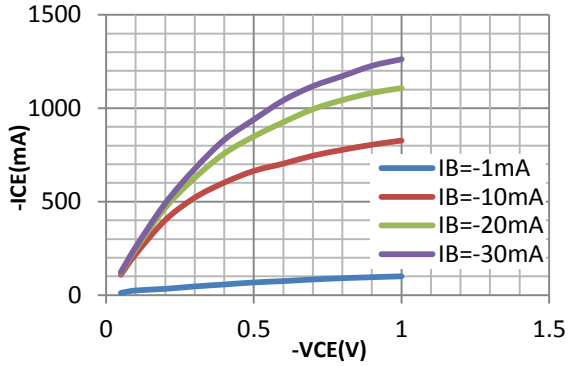
TJ=25°C

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_{CB0}	Collector cut-off current(I_E=0) (PNP)	V_{CB}=-18V	-0.1			uA
I_{EB0}	Collector cut-off current(I_C=0) (PNP)	V_{EB}=-10V	-0.1			uA
BV_{CE0}	Collector-emitter breakdown Voltage (I_B=0) (PNP)	I_C=-10uA	-25	-20	-18	V
$V_{CE(sat)}$	Collector-emitter saturation Voltage (PNP)	I_C=-0.4A I_C=-0.6A I_C=-1A	-0.4 -0.5 -0.8	-0.2 -0.3 -0.5		V V V
$V_{BE(sat)}$	Base-emitter saturation Voltage (PNP)	I_C=-0.4A I_C=-0.6A I_C=-1A	-1.1 -1.1 -1.2	-0.80 -0.83 -0.90		V
$V_{BE(on)}$	Base-emitter Voltage (PNP)	I_C=-0.5A V_{CE}=-1V	-1.0	-0.73		V
h_{FE}	DC current gain (PNP)	I_C=-0.6A	100			
V_{th}	Threshold Voltage (MOSFET)	I_{ds}=1uA, V_{ds}=V_{gs}	0.9	1.3	1.7	V
I_{gs}	Gate-source leakage current (MOSFET)	V_{gs}=-20V	-1	-0.1	1	uA
I_{dss}	Off-state leakage (MOSFET)	V_g=0, V_s=0V, V_d=10V		1	3	uA
I_{dson}	On –state drain current (MOSFET)	V_s=0.5V, V_g=3.6V, V_d=5V	5	15	25	mA

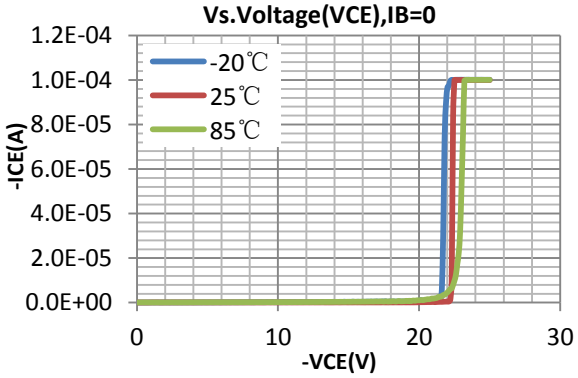
TYPICAL PERFORMANCE CHARACTERISTICS

T=25°C unless specified.

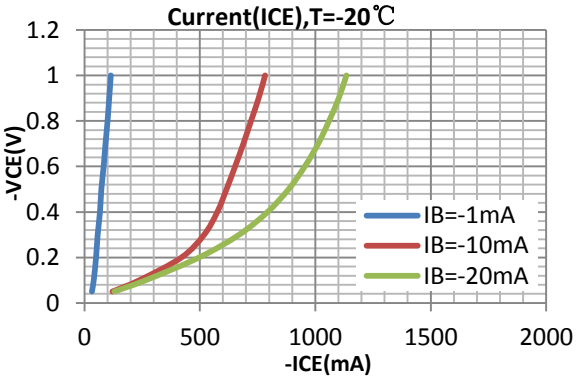
PNP Output



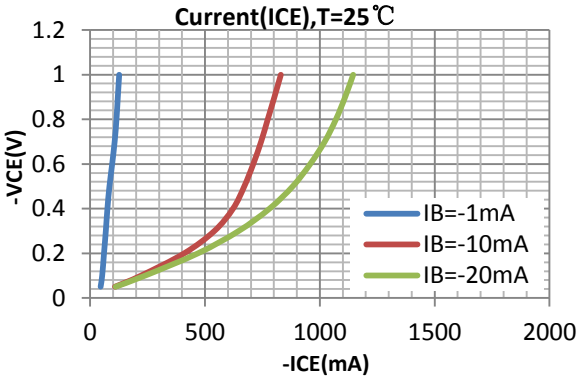
Collector-emitter Current(ICE) Vs.Voltage(VCE),IB=0



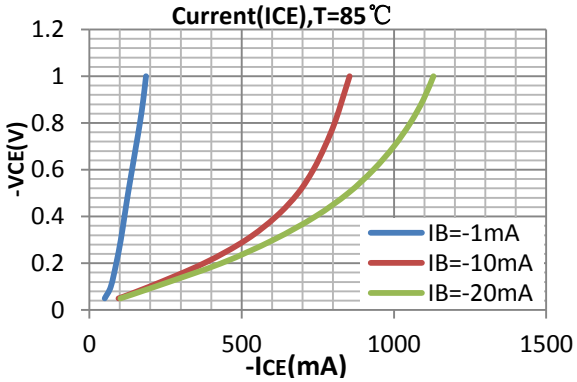
Dropout Voltage(VCE) Vs.Charge Current(ICE),T=-20℃



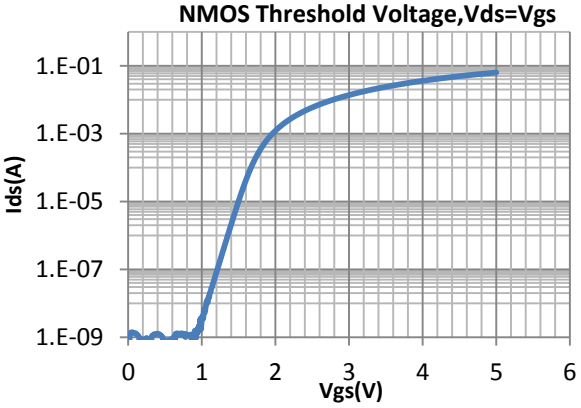
Dropout Voltage(VCE) Vs.Charge Current(ICE),T=25℃



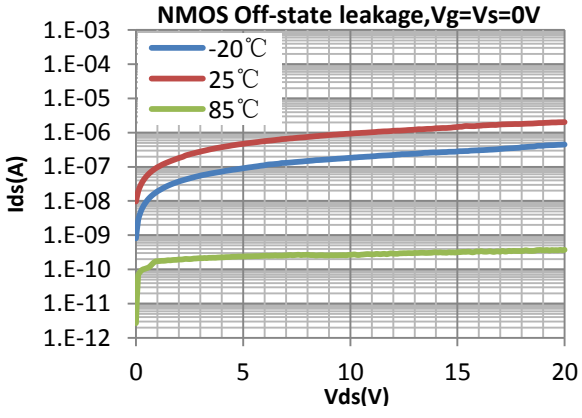
Dropout Voltage(VCE) Vs.Charge Current(ICE),T=85℃



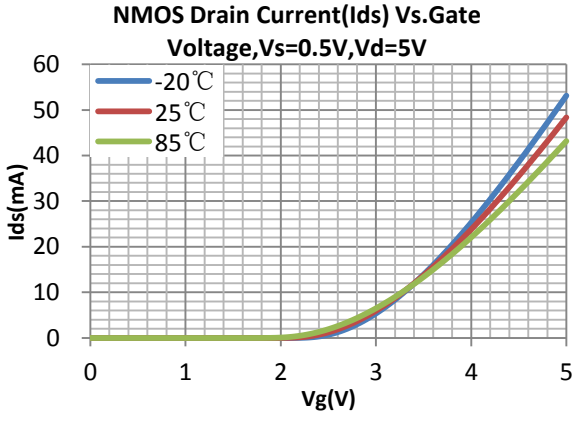
NMOS Threshold Voltage,Vds=Vgs



NMOS Off-state leakage,Vg=Vs=0V



NMOS Drain Current(Ids) Vs.Gate Voltage,Vs=0.5V,Vd=5V



PACKAGE OUTLINE

Package	SOT-23-6	Devices per reel	3000Pcs	Unit	mm

Package dimension：