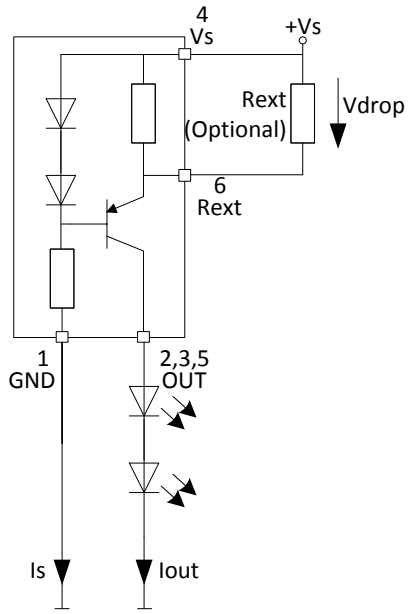
LED Driver

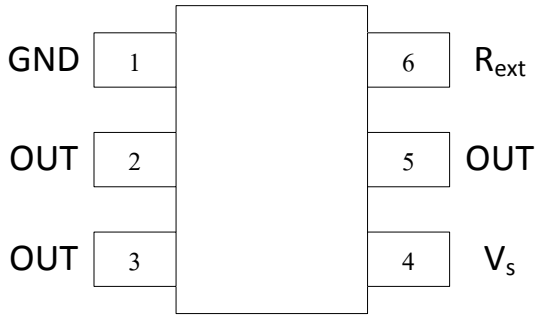
Feature

- LED drive current of 20mA
- Output current adjustable up to 65mA with external resistor
- Supply voltage up to 40V
- Easy paralleling of drivers to increase current
- Low voltage overhead of 1.4V
- High current accuracy at supply voltage variation
- No EMI
- High power dissipation of 750mW
- Reduced output current at higher temperatures - Negative thermal coefficient of -0.5% / K

Typical Application



Pad Information



SOT-23-6

Absolute Max Ratings

Parameters	Symbol	Value	Unit
Max Supply voltage	V_S	42	V
Max Output current	I_{out}	65	mA
Max Output voltage (at Vs=40V)	V_{out}	38	V
Reverse voltage between all terminals	V_R	0.5	V
Reverse voltage between all terminals	P_{tot}	750	mW
Max junction temperature	T_j	150	℃
Thermal resistance (Junction-soldering point)	R_{thJS}	50	K/W
Operating Temperature, Ts	T_{op}	-40~+125	℃
Operating Supply voltage rang (at Iout≥18mA, Vs-Vout =1.4V)	V_S	5~40	V

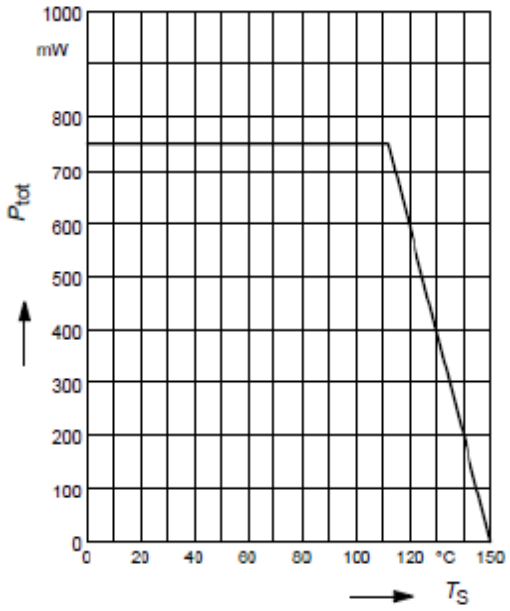
Ts = temperature of soldering point.

Electrical Characteristics

At Ta=25℃, Rext=Open, unless otherwise specified.

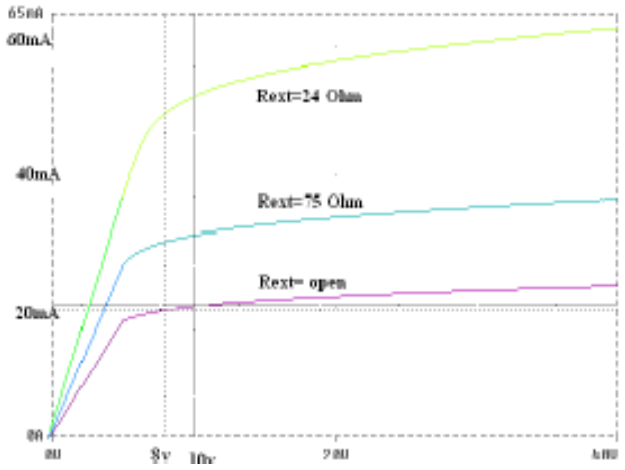
Parameters	Conditions	Symbol	Value			Unit
			Min.	Typ.	Max.	
Collector-emitter breakdown voltage	Ic=1mA, Ib=0	$V_{BR(CEO)}$	40			V
Supply Current	Vs=10V	Is	340	440	540	uA
DC current gain	Ic=50mA, Vce=1V, Rext=0 Ohm	hFE	100	140	470	-
Internal Resistor	IRint =20mA	Rint	37	44	53	Ohm
Output Current	Vs=10V, Vout=8.6V	Iout1	18	20	22	mA
Voltage drop (V_S - V_E)	Iout=Iout1	Vdrop	0.83	0.88	0.93	V
Output current change versus T_A	Vs=10V, (Vs-Vout) =1.4V	ΔIout/Iout1		-0.5		%/K
Output current change versus V_S	Vs= 10V…40V, (Vs-Vout)=1.4V	ΔIout/Iout1		1		%/V

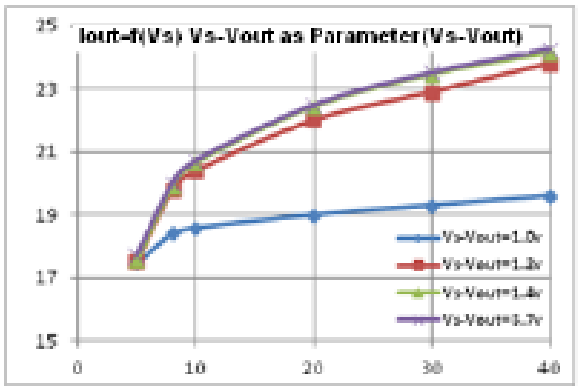
Permissible total power dissipation Ptot = f(T_S)



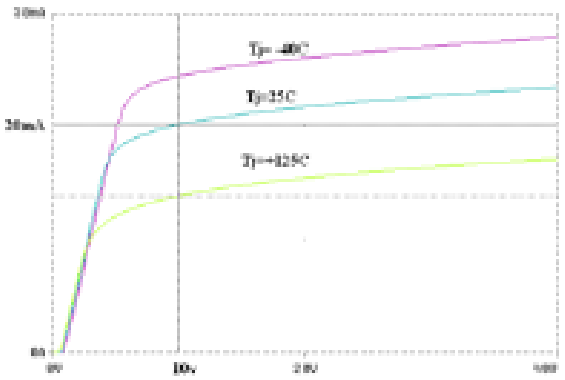
Output current vs Supply voltage

Vs-Vout=1.4V

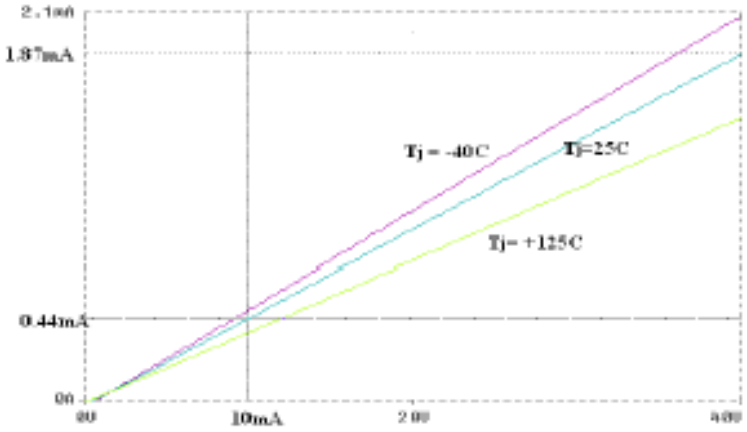




Output Current vs Supply voltage
Iout=f(Vs), Ta=25C
Vs-Vout as Parameter

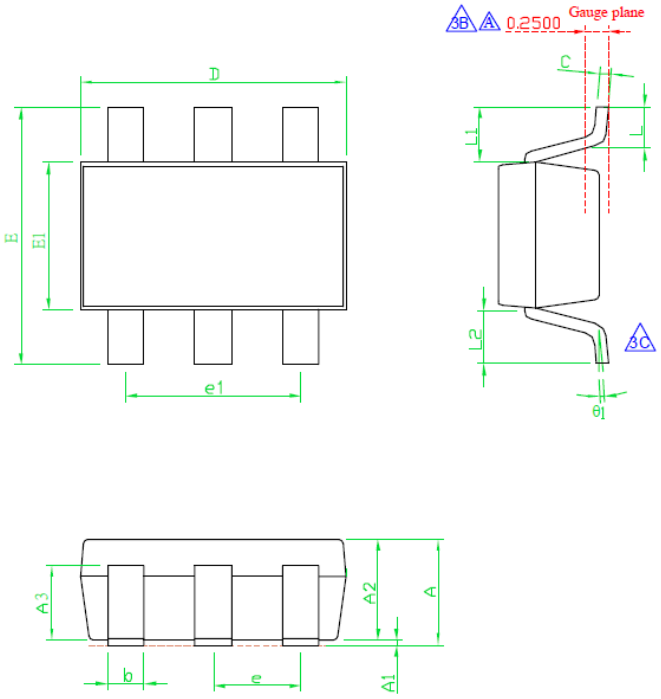


Output current vs Supply voltage
Iout=f(Vs), Vs-Vout=1.4v
Tj as Parameter



Supply current vs Supply voltage
Is =f(Vs)
Tj as Parameter

Package Information



NOTE
1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS
2. TOLERANCE ±0.1000 mm (4 mil) UNLESS OTHERWISE SPECIFIED
3. COPLANARITY : 0.1000 mm
4. DIMENSION L IS MEASURED IN GAUGE PLANE

SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	1.00	1.10	1.40
3A A1	0.00	0.05	0.10
A2	1.00	1.10	1.30
A3	0.70	0.80	0.90
b	0.35	0.40	0.50
3A C	0.12	0.125	0.225
D	2.70	2.90	3.10
E	2.60	2.80	3.00
4A E1	1.50	1.60	1.80
e	---	0.95(TYP)	---
e1	---	1.90(TYP)	---
θ1	1°	5°	9°
L	0.37	---	---
A 3A L1	---	0.6REF	---
3A L1-L2	---	---	0.12