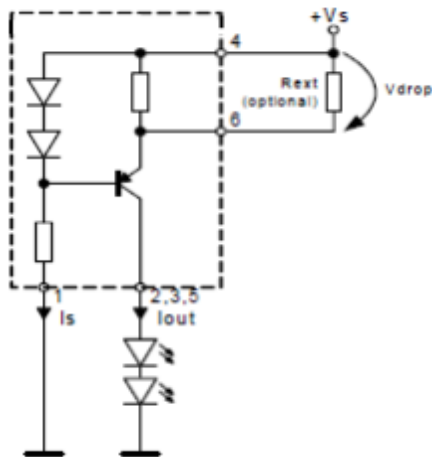


HT8402A LED Driver

FEATURES:

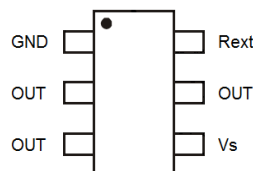
- LED drive current of 20mA
- Output current adjustable up to 65mA with external resistor
- Supply voltage up to 40V
- Easy paralleling of drivers to increase current
- Low voltage overhead of 1.4V
- High current accuracy at supply voltage variation
- No EMI
- High power dissipation of 750mW
- Reduced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

Typical Application



**SOT23-6 T
SUFFIX
HT8402ARTZ**

$T_A = -40^\circ$ to 125°C for all packages.

PIN CONFIGURATIONS

Package: SC74

Pin Assignment:

1=Gnd, 2,3,5=Out, 4=Vs, 6=Rext

Pin Name	Pin Function
V _S	Supply Voltage
OUT	Regulated Output Current
Rext	External resistor for adjusting Output Current
GND	Power Ground

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 V _S =40V)	V _{out}	38	V
Reverse voltage between all terminals	V _R	0.5	V
Total power dissipation, T _S = 125 °C	P _{tot}	750	mW
Max junction temperature	T _J	150	°C
Thermal resistance (Junction-soldering point)	R _{thJS}	50	K/W
Operating Temperature, T _S	T _{op}	-40...+125	°C
Operating Supply voltage rang (at I _{out} ≥18mA, V _S -V _{out} =1.4V)	V _S	5...40	V

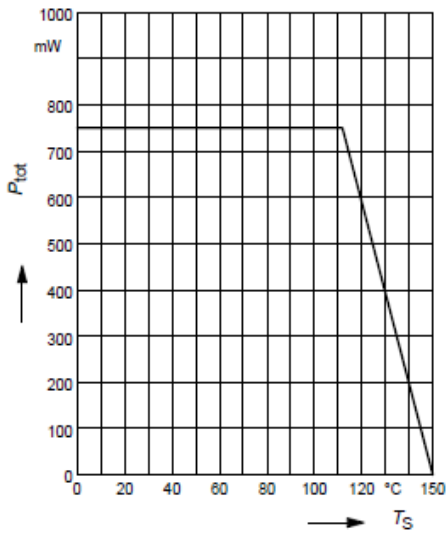
 T_S = temperature of soldering point.

Electrical Characteristics

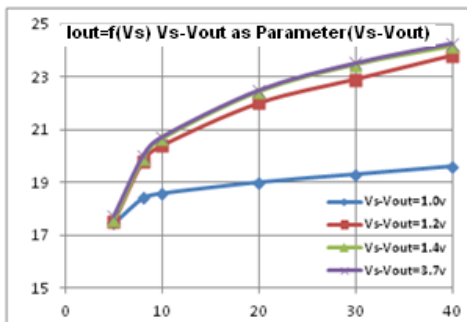
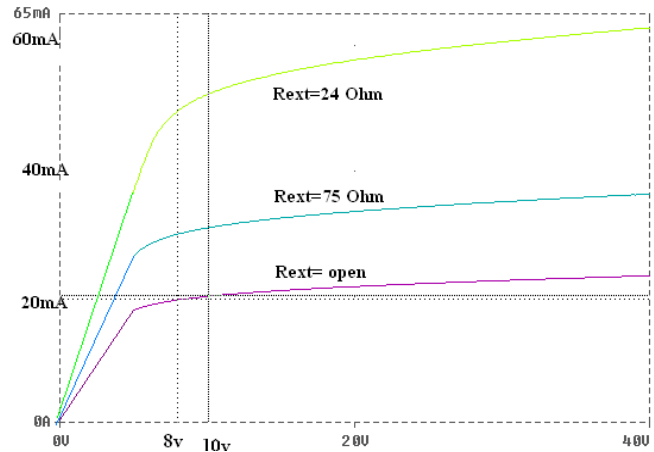
 At T_a=25°C, Rext=Open, unless otherwise specified.

Parameters	Conditions	Symbol	Value			Unit
			Min	Typ	Max	
Collector-emitter breakdown voltage	I _c =1mA, I _b =0	V _{BR(CEO)}	40			V
Supply Current	V _S =10V	I _S	340	440	520	uA
DC current gain	I _c =50mA, V _{ce} =1V, Rext=0 Ohm	h _{FE}	100	140	470	-
Internal Resistor	I _{Rint} =20mA	R _{int}	37	44	53	Ohm
Output Current	V _S =10V, V _{out} =8.6V	I _{out1}	18	20	22	mA
Voltage drop (V _S - V _E)	I _{out} =I _{out1}	V _{drop}	0.83	0.88	0.93	V
Output current change versus T _A	V _S =10V, (V _S -V _{out})=1.4V	ΔI _{out} /I _{out1}		-0.5		%/K
Output current change versus V _S	V _S = 10V...40V, (V _S -V _{out})=1.4V	ΔI _{out} /I _{out1}		1		%/V

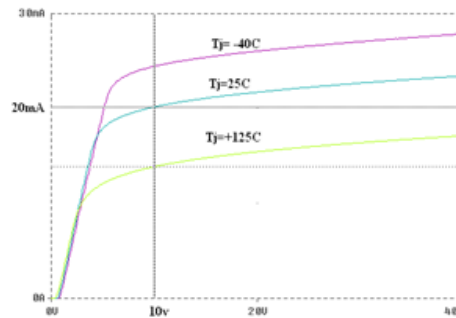
Permissible total power dissipation $P_{tot} = f(T_s)$



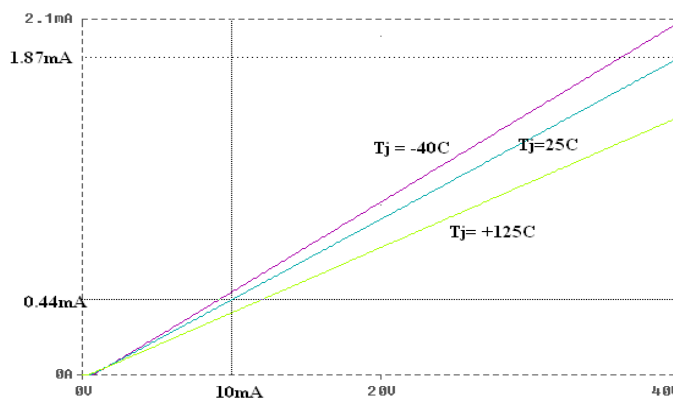
Output current vs Supply voltage
 $V_s - V_{out} = 1.4V$



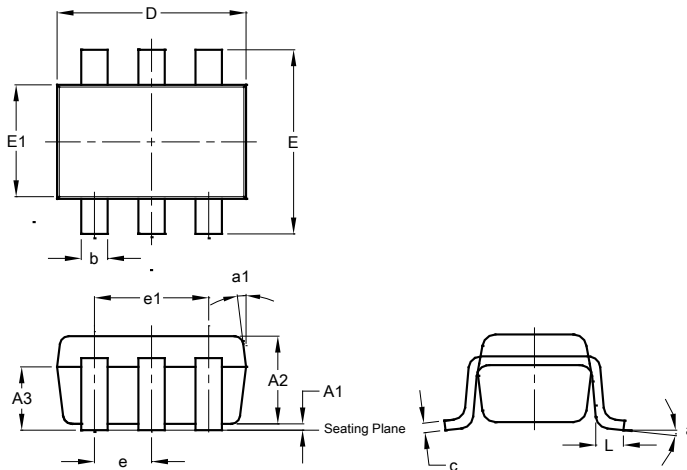
Output Current vs Supply voltage
 $I_{out} = f(V_s)$, $T_a = 25^\circ C$
 $V_s - V_{out}$ as Parameter



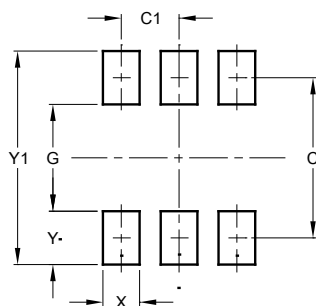
Output current vs Supply voltage
 $I_{out} = f(V_s)$, $V_s - V_{out} = 1.4V$
 T_j as Parameter



Supply current vs Supply voltage
 $I_s = f(V_s)$
 T_j as Parameter

Package Outline Dimensions
SOT236 (SC74R)


SOT26 (SC74R)			
Dim	Min	Max	Typ
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout
SOT236 (SC74R)


Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

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