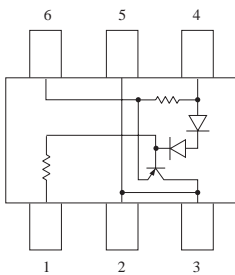


## LED Drive Application.

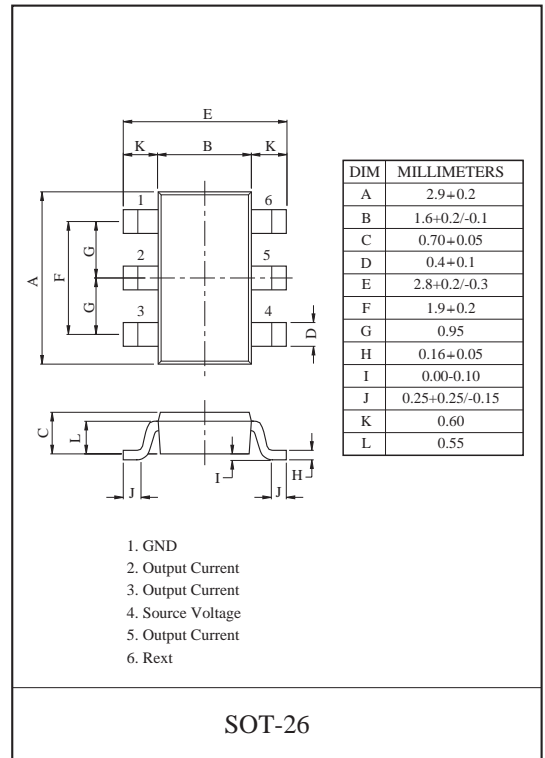
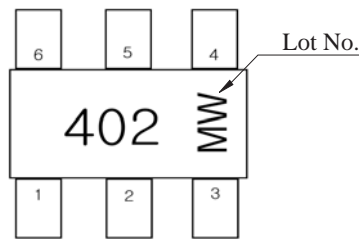
### FEATURES

- Supplies stable bias current even at low battery voltage.
- Ideal for stabilizing bias current of LEDs.
- Negative temperature coefficient protects LEDs against thermal overload.

### EQUIVALENT CIRCUIT



### MARKING



### MAXIMUM RATING (Ta=25 °C)

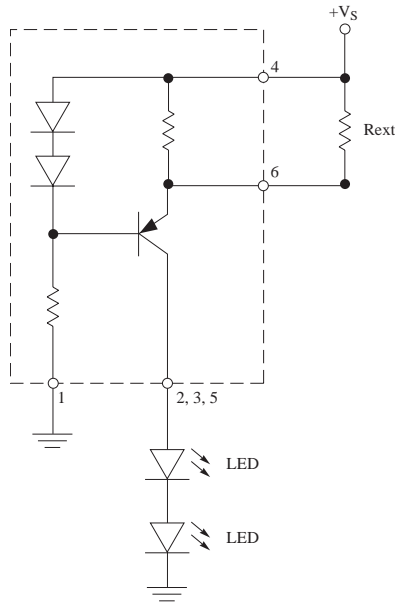
CHARACTERISTIC	SYMBOL	RATING	UNIT
Source Voltage	V <sub>S</sub>	40	V
Output Current	I <sub>O</sub>	65	mA
Output Voltage	V <sub>O</sub>	38	V
Reverse Voltage Between All Terminals	V <sub>R</sub>	0.5	V
Power Dissipation	P <sub>D</sub> *	900	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C

\*Package mounted on a ceramic board (600mm<sup>2</sup> × 0.8mm)

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	40	-	-	V
Supply Current	$I_S$	$V_S=10V$	340	420	500	$\mu A$
DC Current Gain	$h_{FE}$	$I_C=50mA, V_{CE}=1V$	100	220	470	-
Internal Resistor	$R_{int}$	$I_{Rint}=20mA$	37	44	53	$\Omega$
Output Current	$I_O$	$V_S=10V, V_{OUT}=8.6V$	18	20	22	mA
Voltage Drop ( $V_S-V_E$ )	$V_{Drop}$	$I_O=20mA$	0.8	0.85	0.9	V
Lowest Sufficient Battery Voltage Overhead	$V_{Smin}$	$I_O>18mA$	-	1.4	-	V
Output Current Change Versus Ta	$\Delta I_O/I_O$	$V_S=10V$	-	-0.2	-	%/K
Output Current Change Versus $V_S$	$\Delta I_O/I_O$	$V_S=10V$	-	1	-	%/V

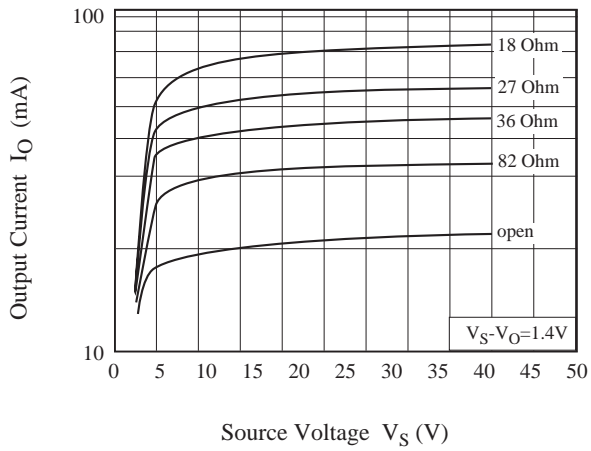
## APPLICATION CIRCUIT



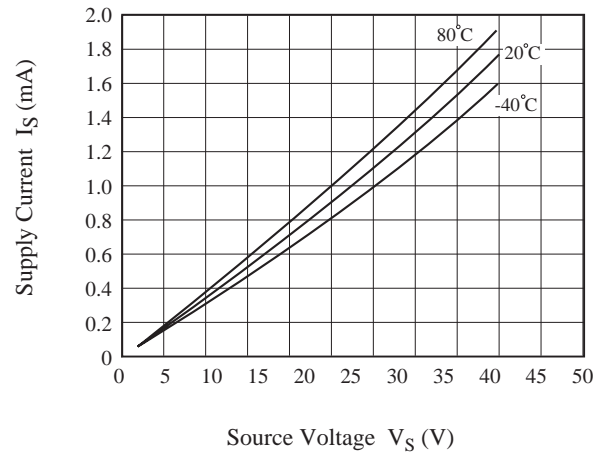


# FCR402

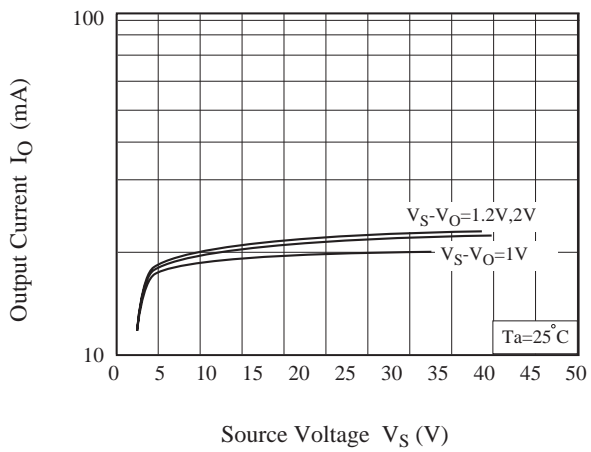
$I_O - V_S$



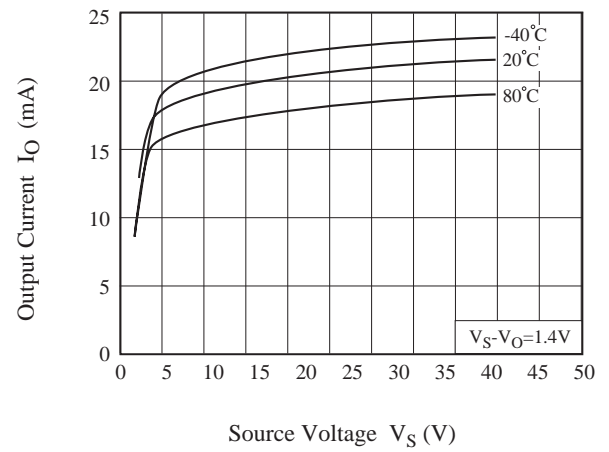
$I_S - V_S$



$I_O - V_S$



$I_O - V_S$



$I_O - R_{ext}$

