IR2C38/IR2C38N 7-Unit 120mA Transistor Array

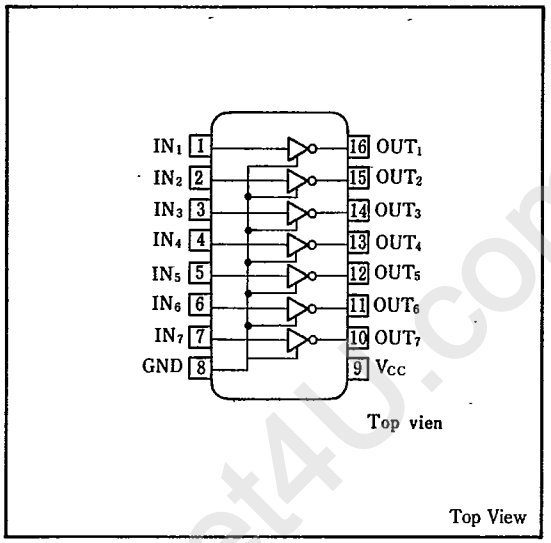
■ Description

The IR2C38/IR2C38N is a 7-circuit high sensitive current driver IC which can drive the maximum load of 120mA. It can be driven by a CMOS low power.

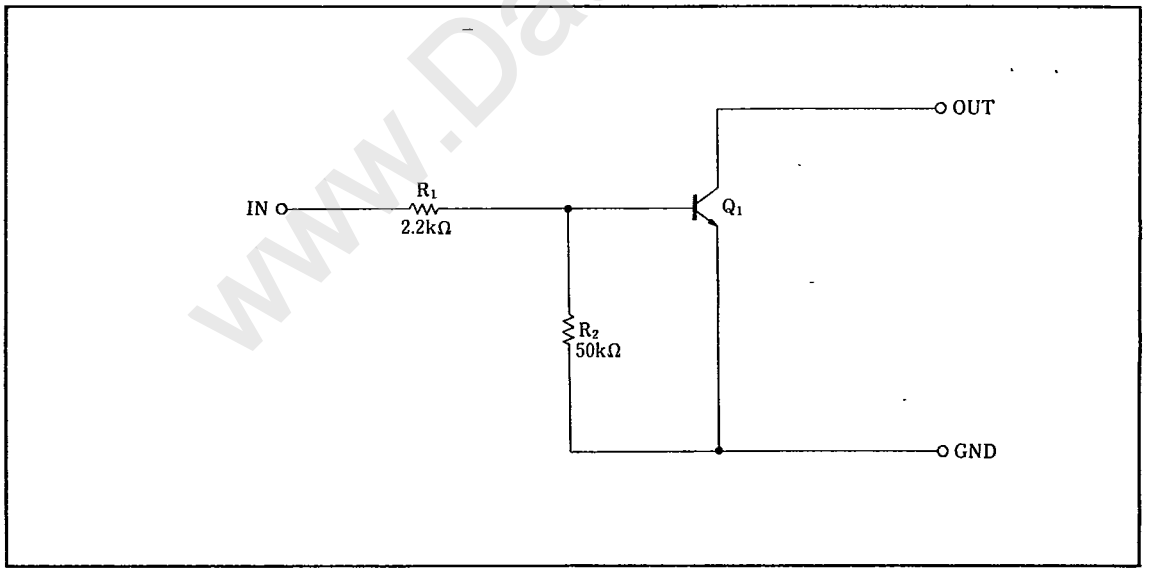
■ Features

1. Output breakdown voltage BV_{CEO}=15V (MAX.)
2. Output current I_{OUT}=120mA (MAX.)
3. Allows for direct drive with CMOS power output (V_{DD}=2.7V, output resistance: 1.25kΩ or less)
4. 16-pin dual-in-line package (IR2C38), 16-pin small outline package (IR2C38N)

■ Pin Connections



■ Equivalent Circuit



■ Absolute Maximum Ratings

(Ta=25℃)

Parameter	Symbol	Condition		Rating	Unit
Breakdown voltage between collector and emitter	BV_{CEO}			15	V
Output current	I_{OUT}			120	mA
Input voltage	V_{IN}			0~10	V
Power dissipation	P_D	Ta≦25℃	IR2C38	910	mW
			IR2C38N	405	
P_D derating ratio	ΔP_D/℃	Ta>25℃	IR2C38	9.2	mW/℃
			IR2C38N	4.1	
Operating temperature	T_{opr}			−20~+85	℃
Storage temperature	T_{stg}			−55~+150	℃

■ Electrical Characteristics

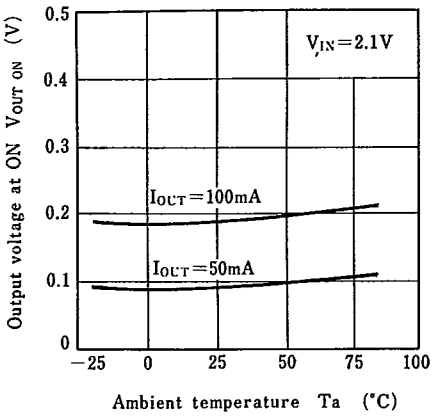
(Ta=−20℃~+85℃)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Output current at OFF	$I_{OUT\ OFF}$	V_{OUT}=15V, V_{IN}=0.2V			10	μA
Output voltage at ON	$V_{OUT\ ON}$	V_{IN}=2.1V, I_{OUT}=100mA		0.3	0.5	V
Input "High" voltage	V_{IH}	I_{OUT}=100mA, $V_{OUT\ ON}$=0.5V	2.1*			V
Input current	I_{IN}	V_{IN}=3.0V	630	900	1700	μA

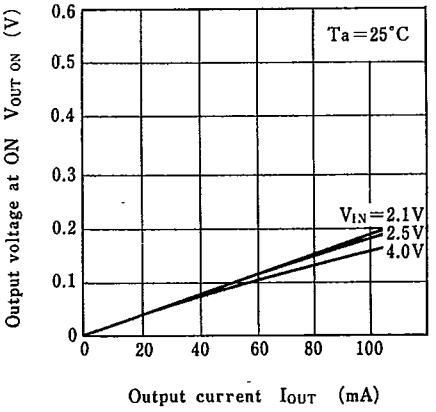
*The IR2C38 can be switched ON by a CMOS output circuit with V_{DD}=2.7V and output resistance being 1.25kΩ or less. The output is switched ON by applying V_{IN}=2.1V, or I_{IN}=0.45mA or more to the input pin.

■ Electrical Characteristic Curves

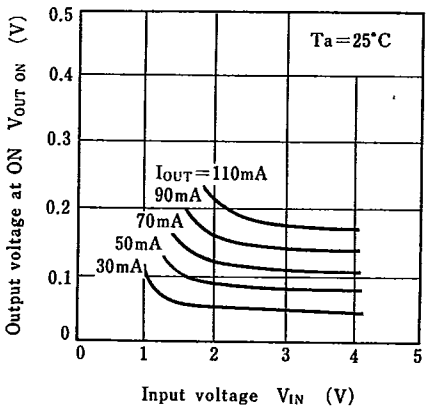
Output voltage at ON —Ambient temperature Characteristics



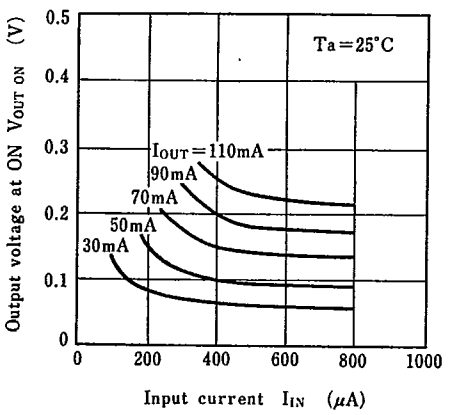
Output voltage at ON —Output current Characteristics



Output voltage at ON —Input voltage Characteristics



Output voltage at ON —Input current Characteristics



Input current —Input voltage Characteristics