

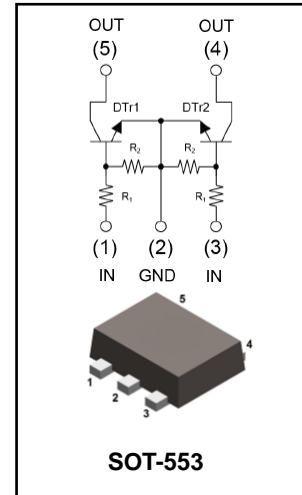


Features

- Epitaxial planar die construction
- Mounting cost and area can be cut in half
- Built-in biasing resistors, $R1 \neq R2$

Mechanical Data

- Case : SOT-553
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
EMG8	SOT-553	3000 pcs / Tape & Reel	G8

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	50	V
V_{IN}	Input Voltage	-5 to +30	V
I_o	Output Current	100	mA
$I_c(\text{Max.})$	Output Current	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	150	mW
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$



Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(off)}$	$V_{CC} = 5V, I_o = 100\mu A$	0.5	-	-	V
	$V_{I(on)}$	$V_o = 0.3V, I_o = 5mA$	-	-	1.3	V
Output Voltage	$V_{O(on)}$	$I_o = 5mA, I_i = 0.25mA$	-	-	0.3	V
Input Current	I_i	$V_i = 5V$	-	-	1.8	mA
Output Current	$I_{O(off)}$	$V_{CC} = 50V, V_i = 0V$	-	-	0.5	μA
DC Current Gain	G_i	$V_o = 5V, I_o = 10mA$	80	-	-	-
Input Resistor	R_1		3.29	4.7	6.11	$k\Omega$
Resistance ratio	R_2/R_1		8	10	12	
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_E = -5mA, f = 100MHz$	-	250	-	MHz

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

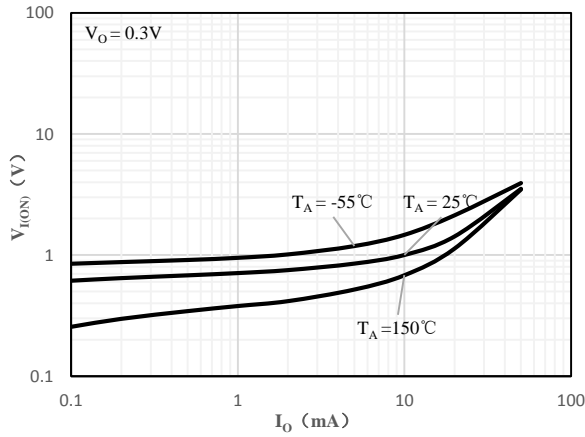


Fig 1 Input Voltage vs Output Current

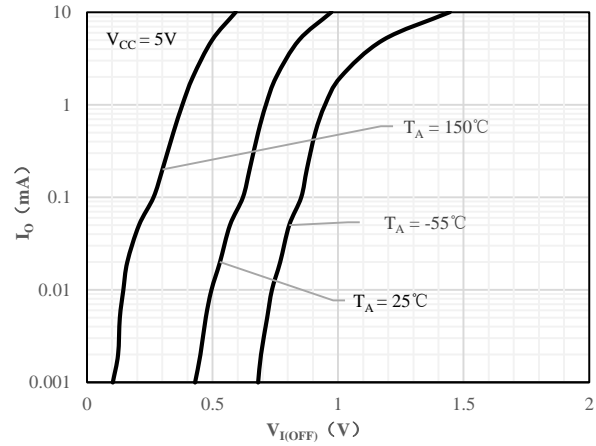


Fig 2 Output Current vs Input Voltage

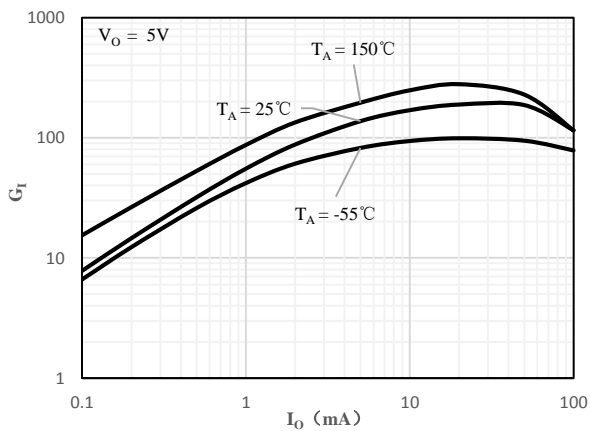


Fig 3 DC Current Gain vs Output Current

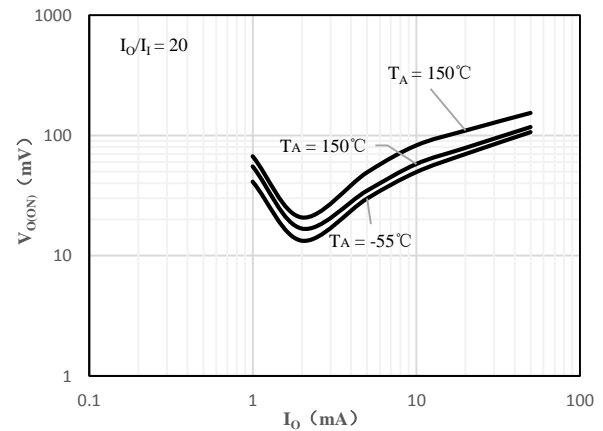
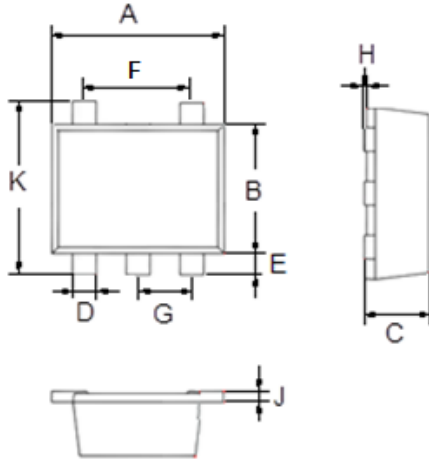


Fig 4 Output Voltage vs Output Current



Package Outline Dimensions (Unit: mm)



SOT-553		
Dimension	Min.	Max.
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
F	0.400	0.600
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700

Package Outline Dimensions (Unit: mm)

SOT-553

