

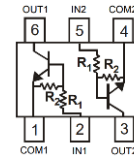
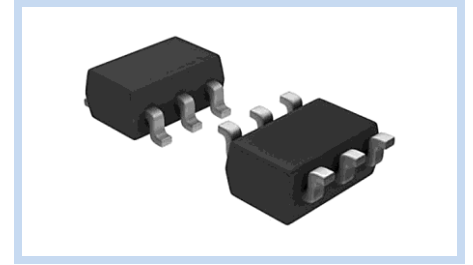
Dual Pre-Biased NPN Transistor 50V 50mA SOT-363 AEC-Q101

UMH11N-A

MERITEK

FEATURE

- 50mA Output Current Capability
- Two Transistor Elements in one Package
- Built-In Biasing Resistors
- Simplifies Circuit Design
- Application: Power Switching Application, Load Switch
- AEC-Q101 Compliant



MECHANICAL DATA

- Case: SOT-363, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026

MAXIMUM RATINGS

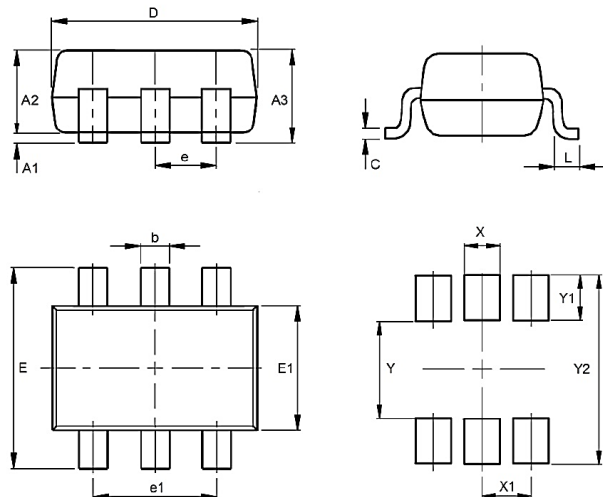
Parameter, T _J =25°C	Symbol	Value	Unit
Supply Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	-10 to +40	V
Output Current	I _O	50	mA
Peak Collector Current	I _{CM}	100	mA
Total Power Dissipation	P _D	150	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

Parameter, T _J =25°C		Symbol	Min	Typ.	Max	Unit
Input Voltage	V _{CC} =5V, I _O =100μA	V _{I(off)}	0.5	--	--	V
	V _O =0.3V, I _O =10mA	V _{I(on)}	--	--	3	V
Output Voltage	I _O /I _I = 10mA/0.5mA	V _{O(on)}	--	0.1	0.3	V
Input Current	V _I =5V	I _I	--	--	0.88	mA
Output Current	V _{CC} =50V, V _I =0V	I _{O(off)}	--	--	0.5	μA
DC Current Gain	V _O =5V, I _O =5mA	G _I	30	--	--	--
Input Resistance	--	R ₁	7	10	13	KΩ
Resistance Ratio	--	R ₂ /R ₁	0.8	1	1.2	--
Transition Frequency	V _O =10V, I _O =5mA, f=100MHz	f _T	--	250	--	MHz

DIMENSIONS

Item	Min (mm)	Max (mm)
A1	-	0.10
A2	0.90	1.00
A3	0.90	1.10
b	0.15	0.35
C	0.10	0.15
D	2.00	2.20
e	0.65 TYP	
e1	1.20	1.40
E	2.15	2.40
E1	1.15	1.35
L	0.26	0.46
Y	1.14	
Y1	0.80	
Y2	2.74	
X	0.40	
X1	0.65	



Dual Pre-Biased NPN Transistor

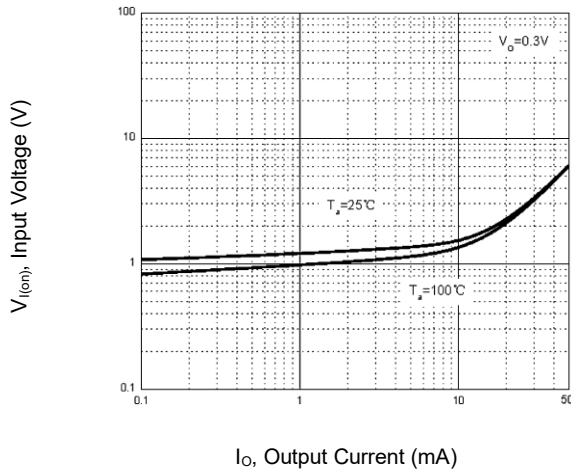
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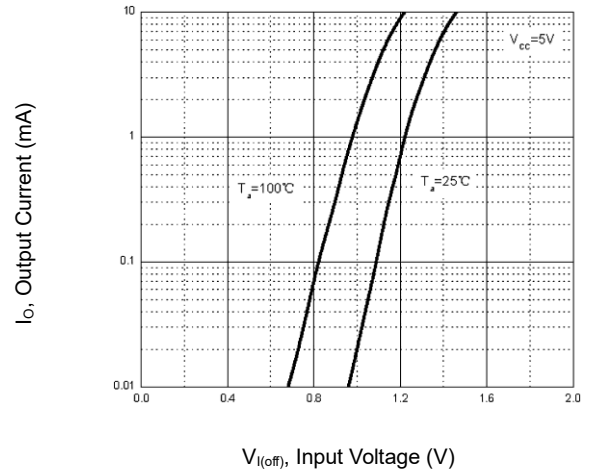
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CHARACTERISTIC CURVES

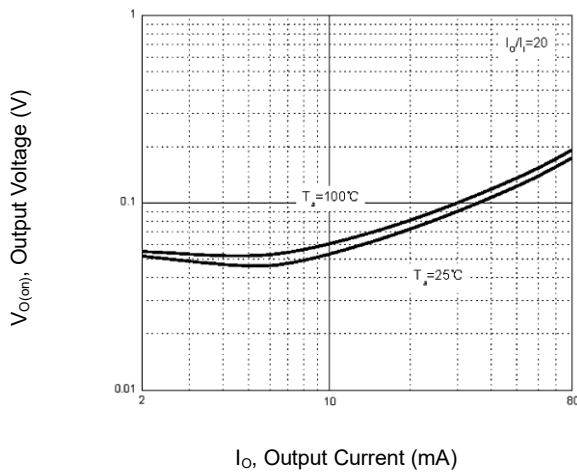
On Characteristics



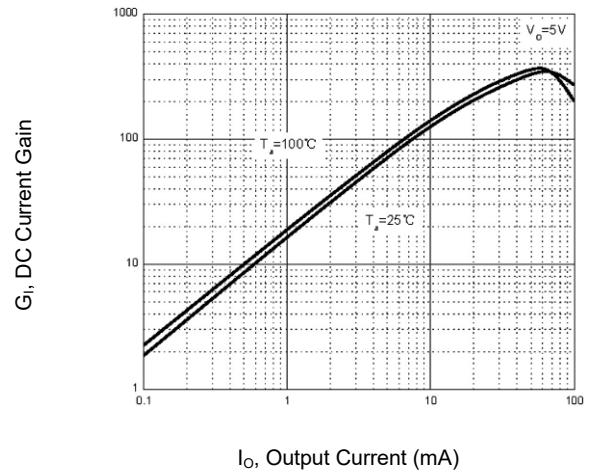
Off Characteristics



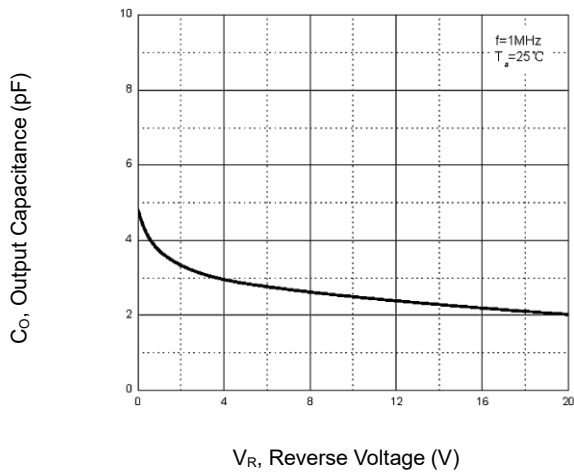
Output Voltage vs. Output Current



DC Current Gain vs. Output Current



Output Capacitance vs. Reverse Voltage



Power Derating Curve

