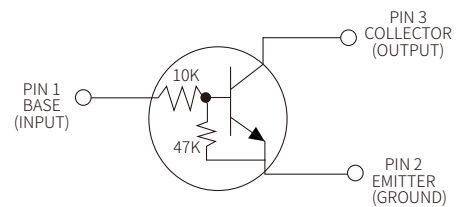
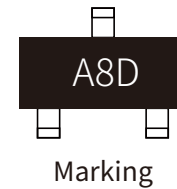
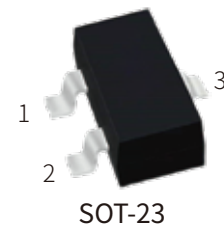


FEATURES

- This new series of digital transistors is designed to replace a single device and its external resistor bias network. The BRT (Bias Resistor Transistor) contains a single transistor with a monolithic bias network resistor. The BRT eliminates these individual components by integrating them into a single device. The use of a BRT can reduce both system cost and board space. The device is housed in the SOT-23 package which is designed for low power surface mount applications
- Simplifies Circuit Design
- Reduces Board Space and Component Count
- The SOT-23 package can be soldered using wave or reflow. The modified gull-winged leads absorb thermal stress during soldering eliminating the possibility of damage to the die



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Total Power Dissipation @ $T_A=25^{\circ}\text{C}$ (Note 1.) Derate above 25°C	P_C	246	mW
		1.5	$^{\circ}\text{C}/\text{W}$
Thermal Resistance From Junction To Ambient (Note 1.)	$R_{\theta JA}$	508	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	150	$^{\circ}\text{C}$
Maximum Temperature for Soldering Purposes, Time in Solder Bath	T_{STG}	-55~+150	$^{\circ}\text{C}$

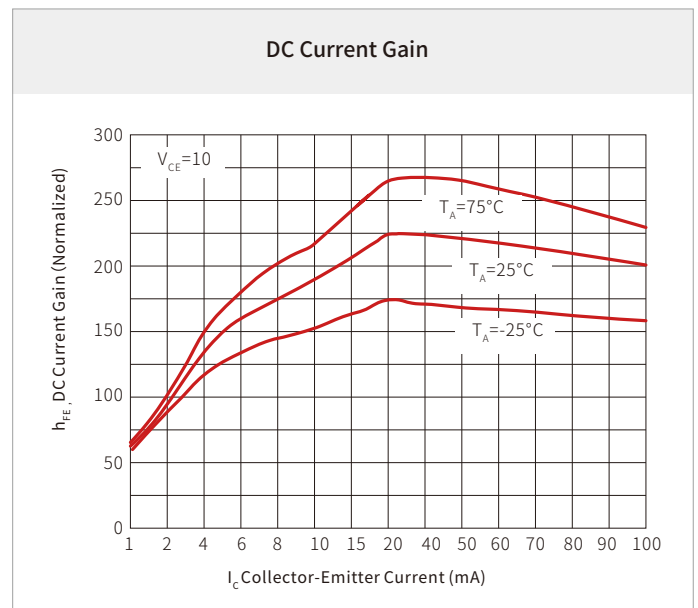
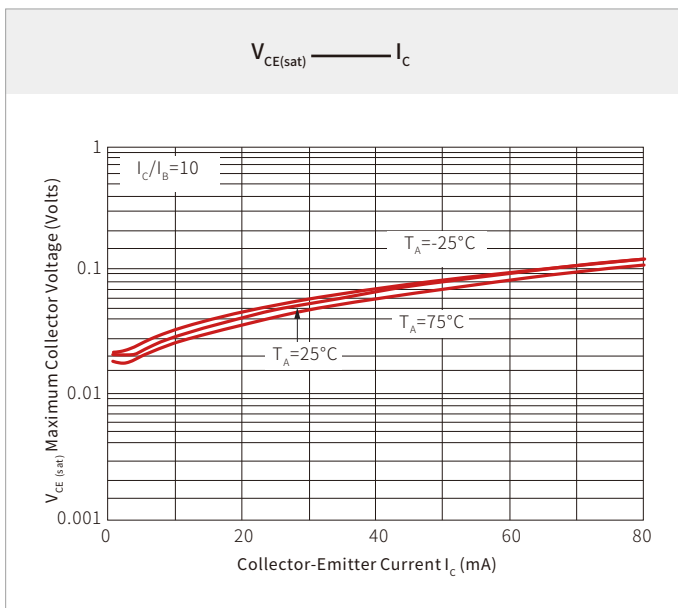
1, Device mounted on a FR-4 glass epoxy printed circuit board using the minimum recommended footprint

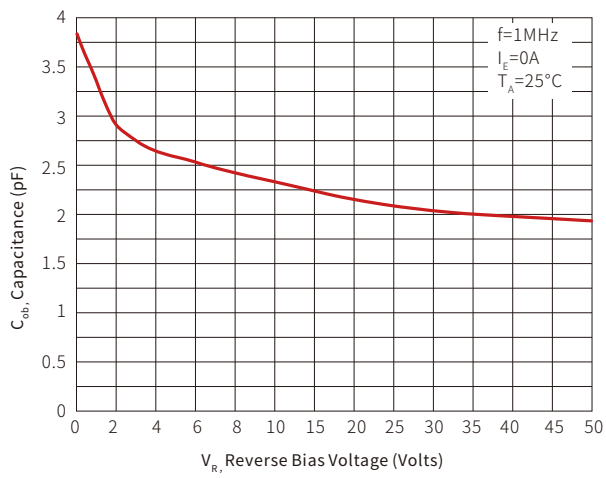
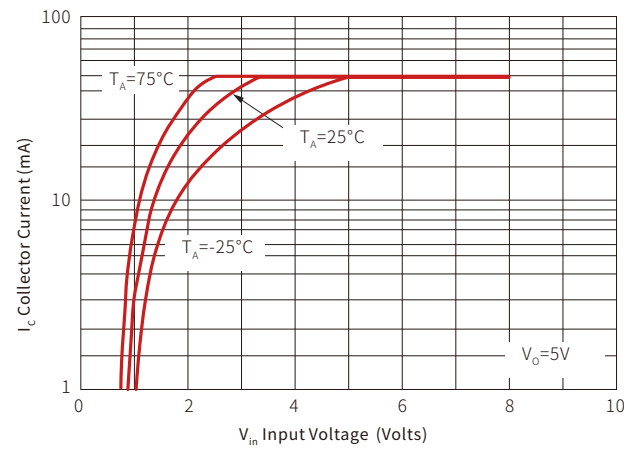
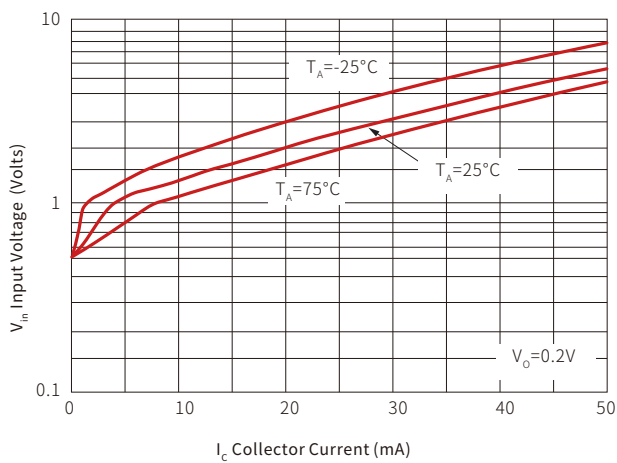
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10uA, I _E =0	50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =2.0mA, I _B =0	50			
Collector cut-off current	I _{CBO}	V _{CB} =50V, I _E =0			100	nA
Collector-Emitter cutoff current	I _{CEO}	V _{CE} =50V, I _B =0			500	
Emitter-Base Cutoff current	I _{EBO}	V _{EB} =6.0V, I _C =0			0.20	mA
DC current gain	h _{FE}	V _{CE} =10V, I _C =5mA	80	140		
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10mA, I _B =0.3mA			0.25	V
Output voltage(on)	V _{OL}	V _{CC} =5.0V, V _B =2.5V, R _L =1.0KΩ			0.2	V
Output voltage(off)	V _{OH}	V _{CC} =5.0V, V _B =0.5V, R _L =1.0KΩ	4.9			V
Input resistor	R ₁		7.0	10	13	kΩ
Resistor ratio	R ₁ /R ₂		0.17	0.21	0.25	

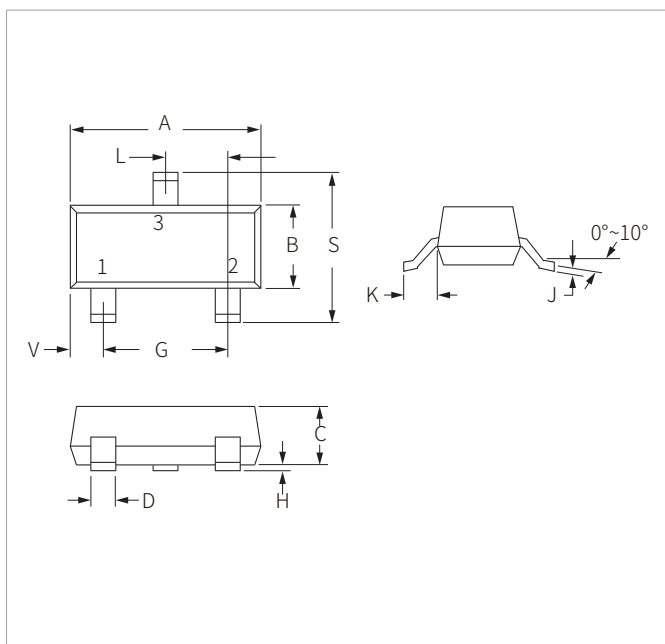
Pulse Test: Pulse Width <300us, Duty Cycle <2.0%

TYPICAL CHARACTERISTICS



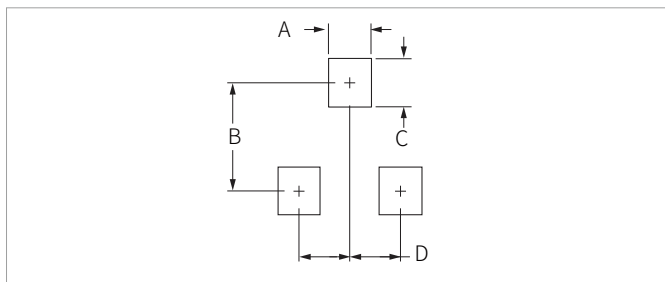
Output Capacitance

Output Current vs. Input Voltage

Input Voltage vs. Output Current


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MUN2214	SOT-23	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.