

GSTDMMT5401RF

PNP General Purpose Transistor

Product Description

This device is designed as a general-purpose amplifier and switch.

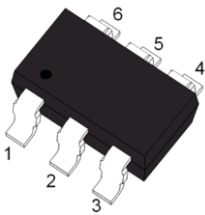
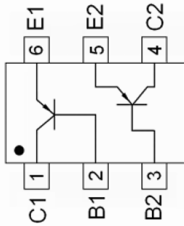
Features

- Collector-Emitter Voltage $V_{CE} = -150V$
- Collector Current $I_C = -200mA$
- Intrinsically Matched PNP Pair
- 2% Matched Tolerance, h_{FE} , $V_{CE(SAT)}$, $V_{BE(SAT)}$

Mechanical Data

- SOT-23-6L Package
- Epoxy meets UL 94 V-0 Flammability Rating
- RoHS Compliant and Halogen Free

Packages & Pin Assignments

SOT-23-6L			Equivalent Circuit		
 Top View					
Pin	Symbol	Description	Pin	Symbol	Description
1	C1	Collector 1	4	C2	Collector 2
2	B1	Base 1	5	E2	Emitter 2
3	B2	Base 2	6	E1	Emitter 1

Ordering and Marking Information

Ordering Information			
Part Number	Package	Marking Code	Quantity/Reel
GSTDMMT5401RF	SOT-23-6L	K4S □ □	3,000 PCS
GSTDMMT5401 □ ¹ □ ² - Product Code: GSTDMMT5401 - Package Code: □ ¹ is R for SOT-23-6L - Green Level: F for RoHS Compliant and Halogen Free			
Marking Information			
- Product Code: K4S - GS Code: □ □			

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CEO}	Collector-Emitter Voltage	-150	V
V _{CBO}	Collector-Base Voltage	-160	V
V _{EB0}	Emitter-Base Voltage	-5	V
I _c	Collector Current ²	-200	mA
P _D	Power Dissipation T _A =25°C ^{2,3}	300	mW
R _{θJA}	Thermal Resistance, Junction to Ambient ²	417	°C/W
T _J	Junction Temperature Range	150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

NOTE:

1. Built with adjacent die from a single wafer.
2. The device is mounted on FR-5 PCB with 1.0 x 0.75 x 0.62 in.
3. Maximum combined dissipation.

Electrical Characteristics (T_A=25°C unless otherwise specified)

Symbol	Description	Conditions	Min	Max	Unit
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C =-100μA, I _E =0	-160	-	V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C =-1mA, I _B =0	-150	-	V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E =-100μA, I _C =0	-5	-	V
I _{CBO}	Collector Cut-Off Current	V _{CB} =-120V, I _E =0	-	-50	nA
I _{EBO}	Emitter Cut-Off Current	V _{EB} =-3V, I _C =0	-	-50	nA
h _{FE}	DC Current Gain	V _{CE} =-5V, I _C =-1mA	50	-	
		V _{CE} =-5V, I _C =-10mA	60	240	
		V _{CE} =-5V, I _C =-50mA	50	-	
V _{CE(SAT)}	Collector-Emitter Saturation Voltage	I _C =-10mA, I _B =-1mA	-	-0.2	V
		I _C =-50mA, I _B =-5mA	-	-0.5	
V _{BE(SAT)}	Base-Emitter Saturation Voltage	I _C =-10mA, I _B =-1mA	-	-1	V
		I _C =-50mA, I _B =-5mA	-	-1	
f _T	Transition Frequency	V _{CE} =-10V, I _C =-10mA f= 100MHz	100	300	MHz
C _{ob}	Output Capacitance	V _{CB} =-10V, I _E =0, f=1MHz	-	6	pF
N _F	Noise Figure	V _{CE} =-5V, I _C =-0.2mA, f=1KHz, R _S =10Ω	-	8	dB

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

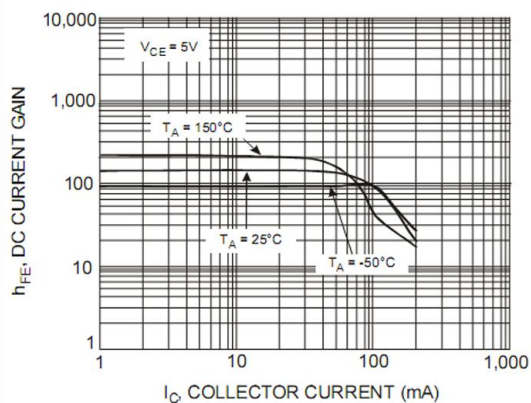


Figure 1. DC Current Gain Characteristics

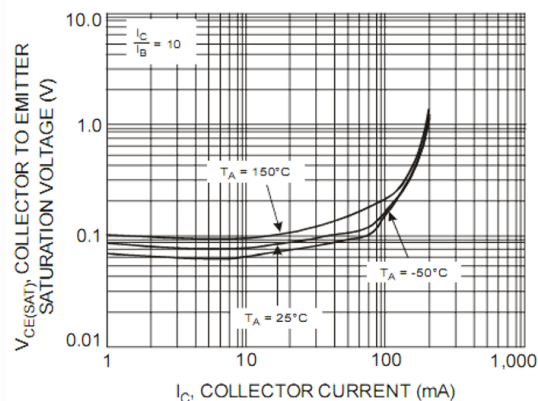


Figure 2. Collector-Emitter Saturation Voltage Characteristics

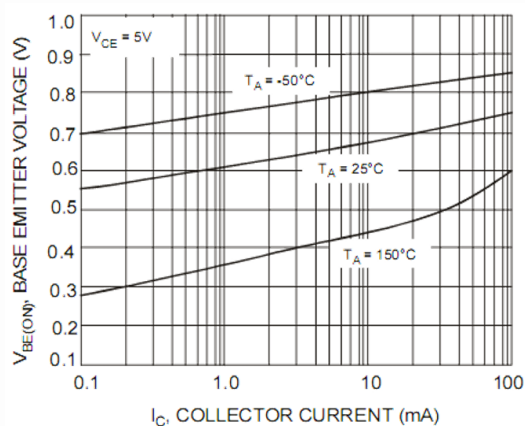


Figure 3. Base-Emitter Saturation Voltage Characteristics

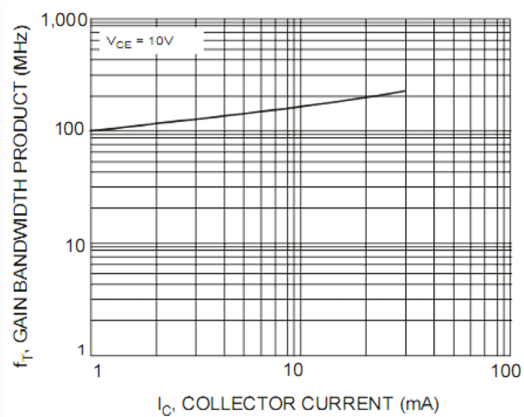


Figure 4. Gain Bandwidth Product

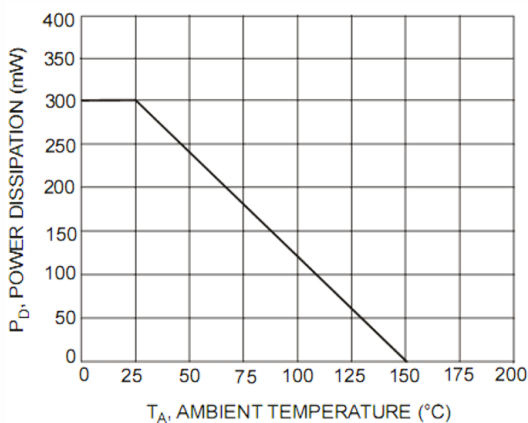
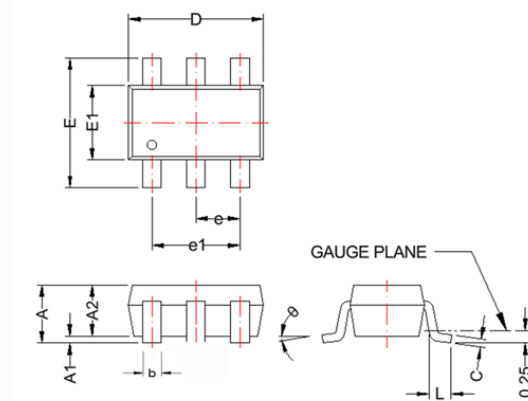


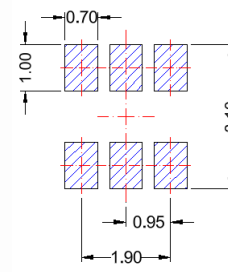
Figure 5. Power Derating Curve

SOT-23-6L

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.45	0.035	0.057
A1	0.00	0.15	0.000	0.006
A2	0.90	1.30	0.035	0.051
b	0.30	0.50	0.012	0.020
c	0.08	0.26	0.003	0.010
D	2.70	3.10	0.106	0.122
E	2.20	3.00	0.087	0.118
E1	1.30	1.75	0.051	0.069
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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