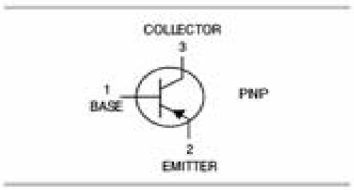
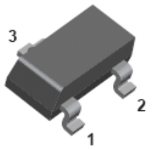
Silicon Epitaxial Planar Transistor **TSA1036**

FEATURES

Lead-free

- Large $I_{C.ICMAX.}$ =-600mA.
- Low $V_{CE(sat).}$ Ideal for low-voltage operation.
- Complements the TSC2411.





SOT-23

APPLICATIONS

- Epitaxial Planar Type.

ORDERING INFORMATION

Type No.	Marking	Package Code
TSA1036	RF•	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-600	mA
P_C	Collector Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	556	℃/W
T_j	Operating Junction Temperature	150	℃
T_{stg}	Operating and Storage Temperature Range	-55 to +150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA,I_E=0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-50V,I_E=0			-10	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-0.5V,I_C=0			-50	nA
DC current gain	h_{FE}	V_{CE}=-10V,I_C=-0.1mA	75			
		V_{CE}=-10V,I_C=-150mA	100		300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-150mA, I_B=-15mA			-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA			-1.3	V
Transition frequency	f_T	V_{CE}=-5V, I_C=-50mA f=100MHz	200			MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz			8	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Figure 1. DC Current Gain

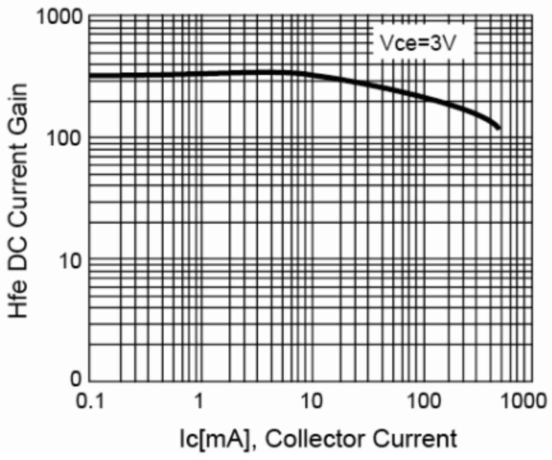


Figure 2. $V_{CE(SAT)}$ v.s. Ic

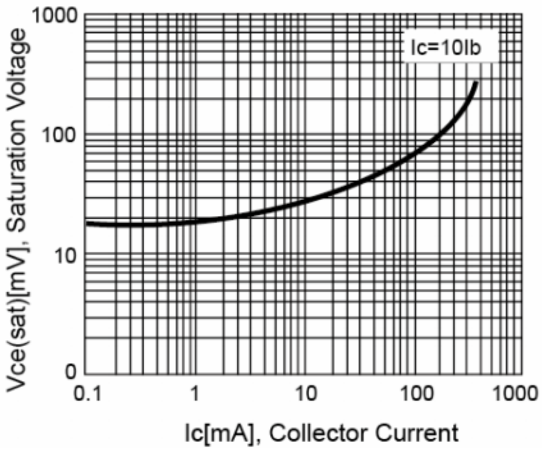


Figure 3. $V_{BE(SAT)}$ v.s. Ic

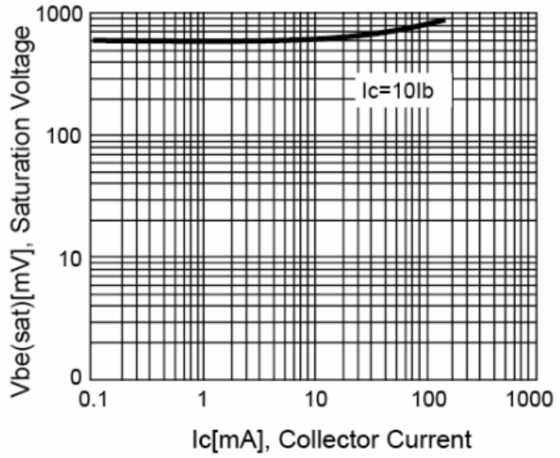


Figure 4. Cutoff Frequency vs. Ic

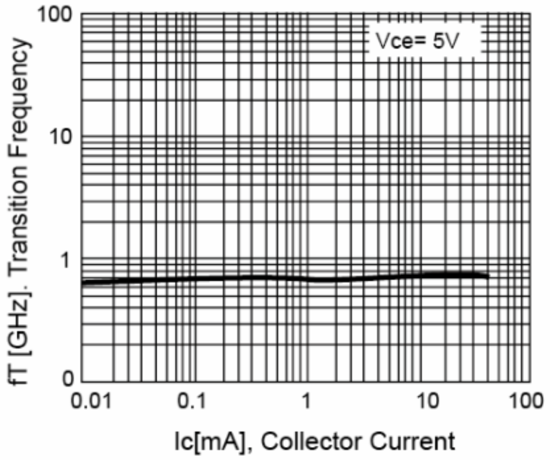
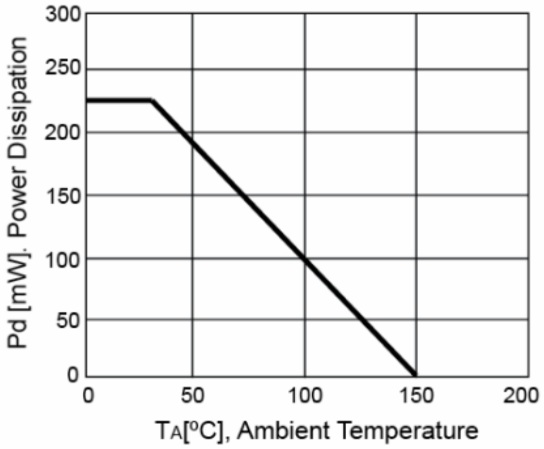
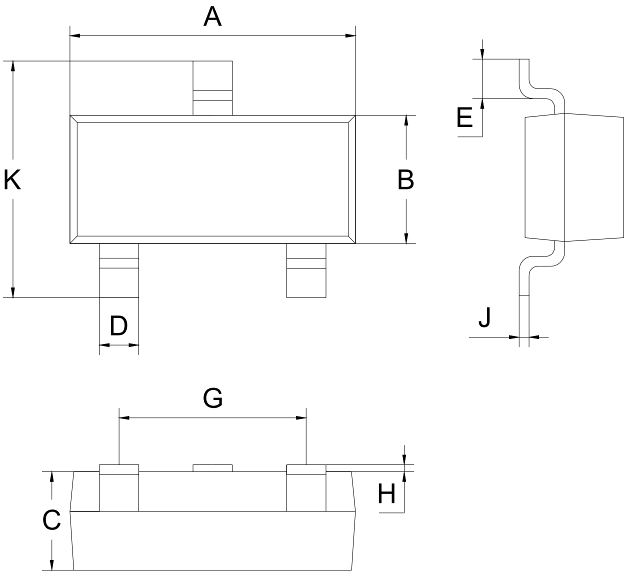


Figure 5. Power Derating Curve



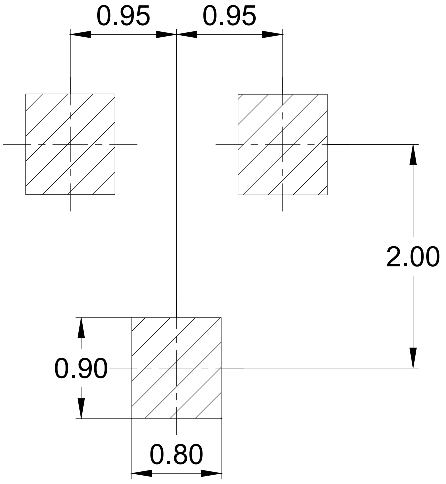
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
TSA1036	SOT-23	3000/Tape&Reel