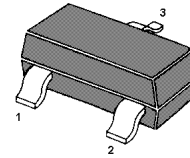


for switching and interface circuit and drive circuit applications

Features

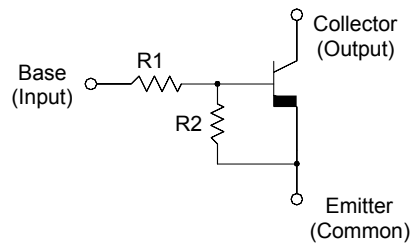
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Marking

RA101SS Marking Code: **RK**
 RA102SS Marking Code: **RM**
 RA103SS Marking Code: **RN**
 RA104SS Marking Code: **RP**
 RA105SS Marking Code: **RR**
 RA106SS Marking Code: **RX**



Resistor Values

Type	R1 (KΩ)	R2 (KΩ)
LMBTRA101SS	4.7	4.7
LMBTRA102SS	10	10
LMBTRA103SS	22	22
LMBTRA104SS	47	47
LMBTRA105SS	2.2	47
LMBTRA106SS	4.7	47

Absolute Maximum Ratings (T_a = 25 °C)

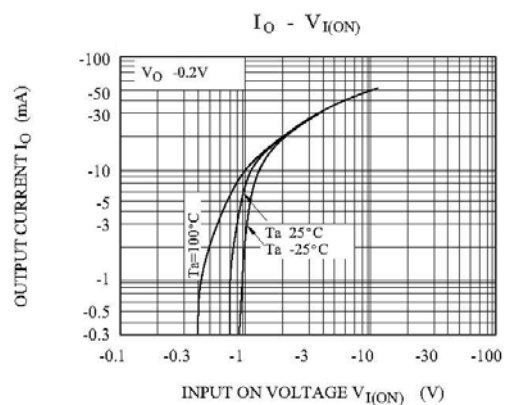
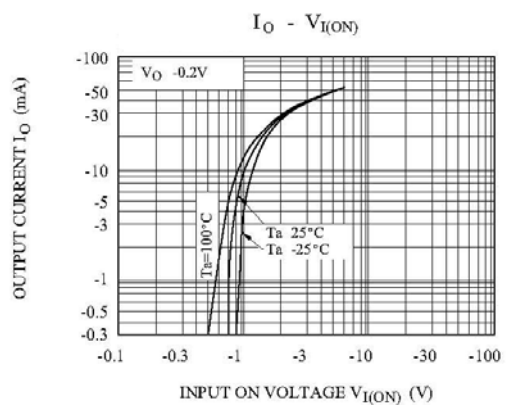
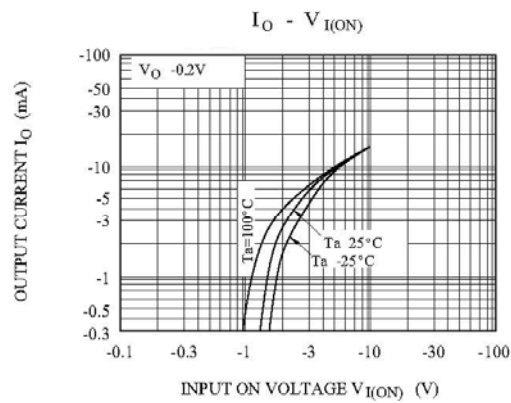
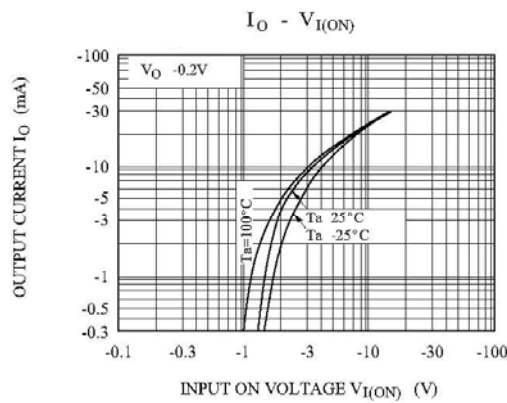
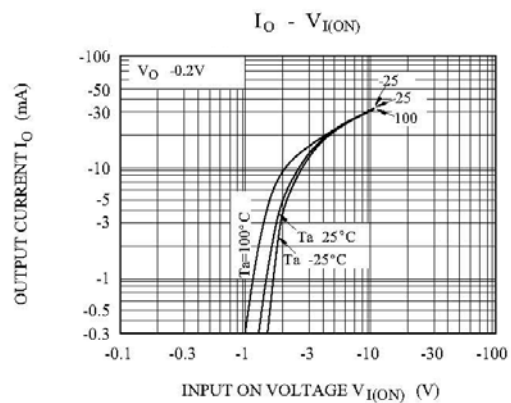
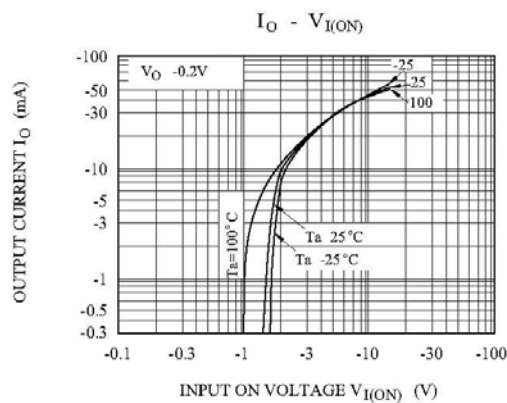
Parameter		Symbol	Value	Unit
Output Voltage		-V _O	50	V
Input Voltage	LMBTRA101SS	-V _I	20, -10	V
	LMBTRA102SS		30, -10	
	LMBTRA103SS		40, -10	
	LMBTRA104SS		40, -10	
	LMBTRA105SS		12, -5	
	LMBTRA106SS		20, -5	
Output Current		-I _O	100	mA
Total Power Dissipation		P _{tot}	200	mW
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	- 55 to + 150	°C

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

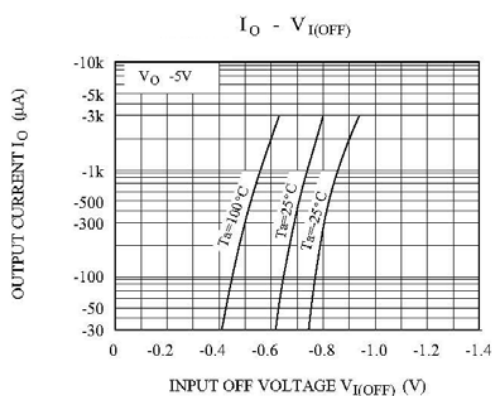
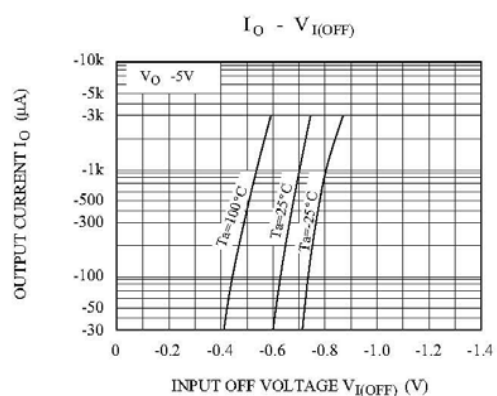
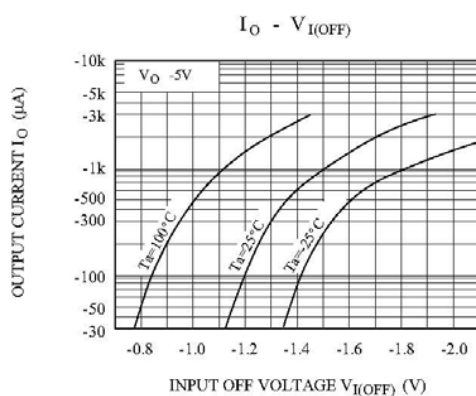
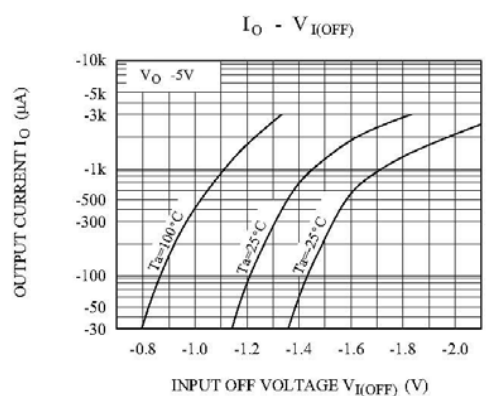
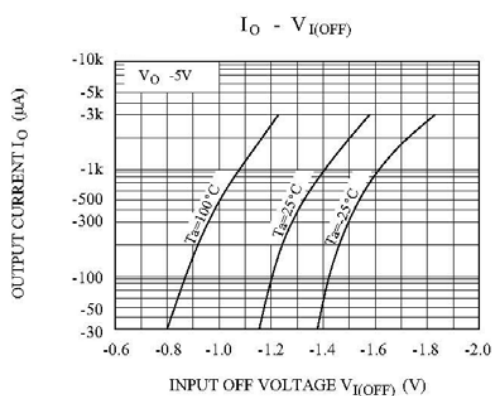
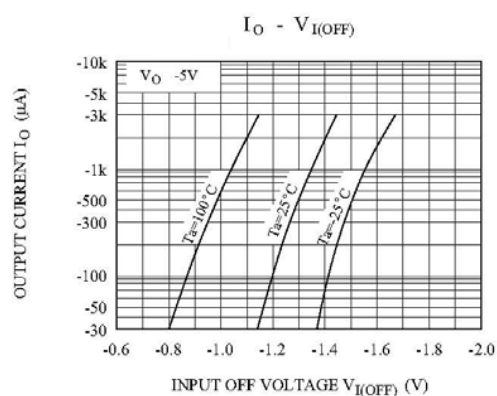
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_O = 5\text{ V}$, $-I_O = 10\text{ mA}$	G_I	30 50 70 80 80 80	- - - - - -	- - - - - -	- - - - - -
Output Cutoff Current at $-V_O = 50\text{ V}$	$-I_{O(ON)}$	-	-	500	nA
Input Current at $-V_I = 5\text{ V}$	$-I_I$	- - - - - -	- - - - - -	1.8 0.88 0.36 0.18 3.6 1.8	mA
Output Voltage at $-I_O = 10\text{ mA}$, $-I_I = 0.5\text{ mA}$	$-V_{O(ON)}$	-	-	0.3	V
Input Voltage (ON) at $-V_O = 0.2\text{ V}$, $-I_O = 5\text{ mA}$	$-V_{I(ON)}$	- - - - - -	- - - - - -	2 2.4 3 5 1.1 1.3	V
Input Voltage (OFF) at $-V_O = 5\text{ V}$, $-I_O = 0.1\text{ mA}$	$-V_{I(OFF)}$	1 0.5	- -	- -	V
Transition Frequency at $-V_O = 10\text{ V}$, $-I_O = 5\text{ mA}$	$f_T^{1)}$	-	200	-	MHz

¹⁾ Characteristic of transistor only.

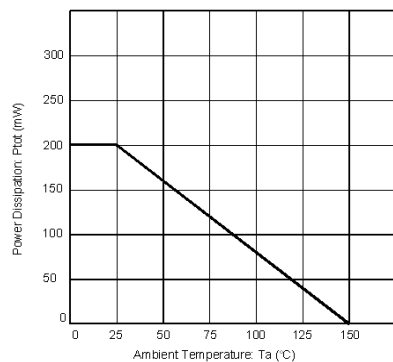
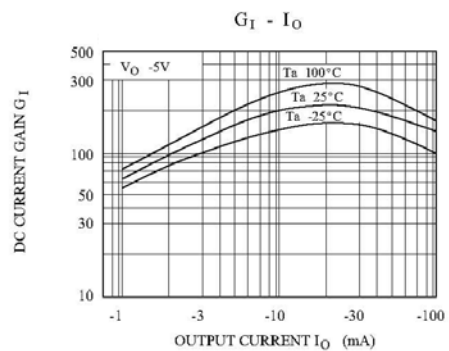
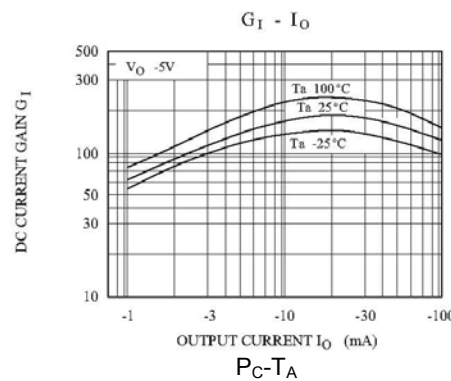
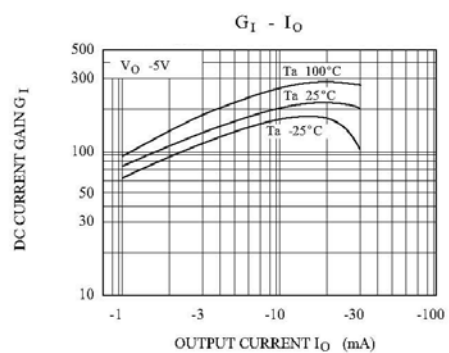
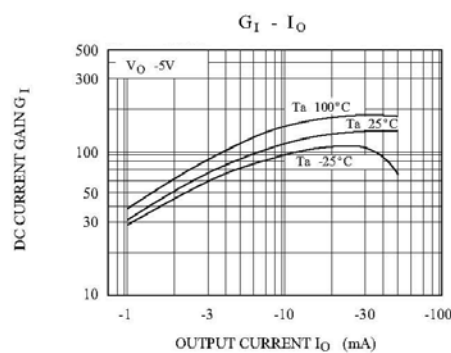
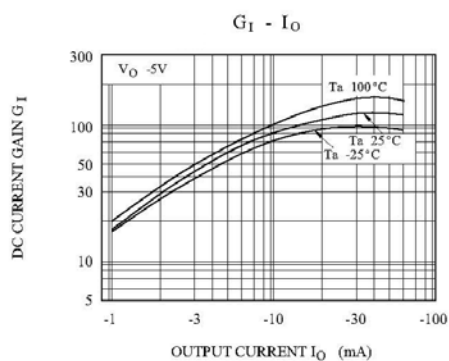
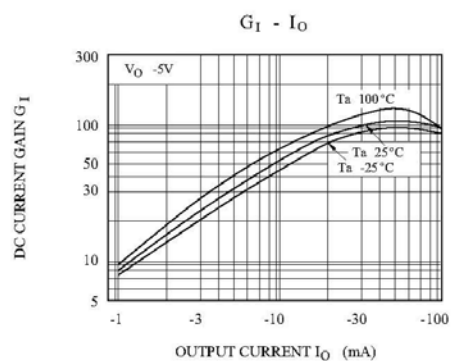
Typical Characteristics



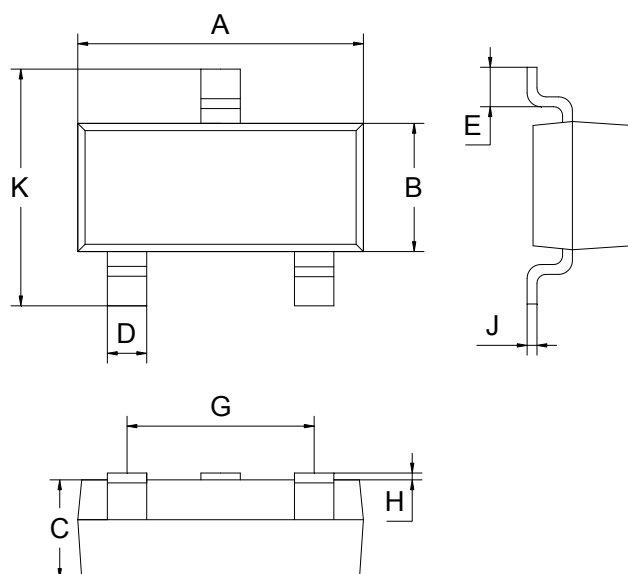
Typical Characteristics



Typical Characteristics

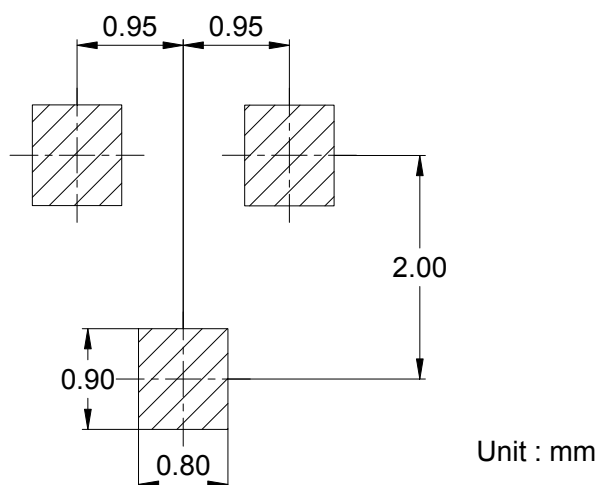


SOT-23 Package Outline Dimensions



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOT-23 Suggested Pad Layout



Package Information

TYPE	REEL	Reel Size	Box	Carton
LMBTRA101SS ~106SS	3000 pcs	7 Inch	45,000 pcs	180,000 pcs