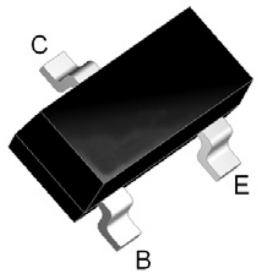
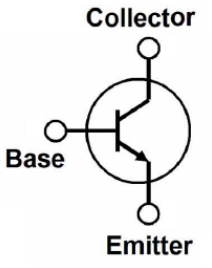
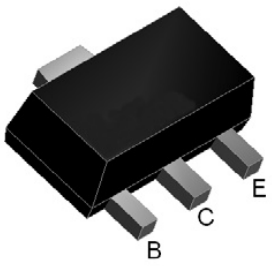
GENERAL PURPOSE TRANSISTORS NPN Silicon







FEATURES

- Low Collector-Emitter Saturation Voltage $V_{CE(sat)}$ And Corresponding Low $R_{CE(sat)}$
- High Collector Current Capability
- High Collector Current Gain
- Improved Efficiency Due to Reduced Heat Generation

MECHANICAL DATA

- Available in SOT-23 , SOT-89 Package
- Solderability：MIL-STD-202, Method 208
- Full RoHS Compliance

ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
LST4350□-T3R	SOT-23	Tape Reel	43yww
LST4350□-T89	SOT-89	Tape Reel	T4350 LS YWW

Note:

1. □: none is for Lead Free package;
   "G" is for Halogen Free package.
2. Marking Code: yww: y: Year code; ww: Week code.

THERMAL DATA

PARAMETER		SYMBOL	VALUES	UNIT
Thermal Resistance, Junction-to-Ambient	SOT-23	$R_{\theta JA}$	417	°C/W
	SOT-89		225	

Note:

3. $R_{\theta JA}$ is measured with device mounted on 1 in^2 FR-4 board with 2 oz copper.

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified. (Note 1)

PARAMETER		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CEO}	50	V
Collector-Base Voltage		V_{CBO}	50	V
Emitter-Base Voltage		V_{EBO}	5	V
Equivalent On-Resistance		$R_{CE(sat)}$	130	mΩ
Collector Current (Continuous)	SOT-23	I_C	2	A
	SOT-89		3	
Repetitive Peak Collector Current (Note 2)	SOT-23	I_{CRP}	3	
Peak Collector Current (Note 3)		I_{CM}	5	
Total Device Dissipation	SOT-23	P_D	300	mW
	SOT-89		550	
Junction Temperature		T_J	150	°C
Storage Temperature Range		T_{stg}	- 65 ~ +150	°C

Note:
1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
2. Operated under pulsed conditions: pulse width tp ≤ 100 ms; duty cycle δ ≤ 0.25.
3. Single peak

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise noted.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	50			V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	50			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5			V
Emitter-Base Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			100	nA
Collector-Base Cut-off Current	I_{CBO}	V_{CB} = 50V, I_E = 0			100	nA
		V_{CB} = 50V, I_E = 0, T_J = 150°C			50	μA
ON CHARACTERISTICS						
Dc Current Gain	h_{FE}	V_{CE} = 2V, I_C = 100mA	300			-
		V_{CE} = 2V, I_C = 500mA	300			
		V_{CE} = 2V, I_C = 1A	300			
		V_{CE} = 2V, I_C = 2A	200			
		V_{CE} = 2V, I_C = 3A	100			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA			80	mV
		I_C = 1A, I_B = 50mA			160	
		I_C = 2A, I_B = 100mA			280	
		I_C = 2A, I_B = 200mA			260	
		I_C = 3A, I_B = 300mA			370	
Equivalent On-Resistance	$R_{CE(sat)}$	I_C = 2A, I_B = 200mA		100	130	mΩ
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 2A, I_B = 100mA			1.1	V
		I_C = 3A, I_B = 300mA			1.2	
Base-Emitter Turn-on Voltage	$V_{BE(on)}$	V_{CE} = 2V, I_C = 1A	1.2			V

SMALL−SIGNAL CHARACTERISTICS						
Transition Frequency	f_T	V_{CE} = 5V, I_C = 100mA, f = 100MHz	100			MHz
Collector Capacitance	C_C	V_{CB} = 10V, I_E = I_e = 0, f = 1MHz			25	pF

ELECTRICAL CHARACTERISTICS CURVE

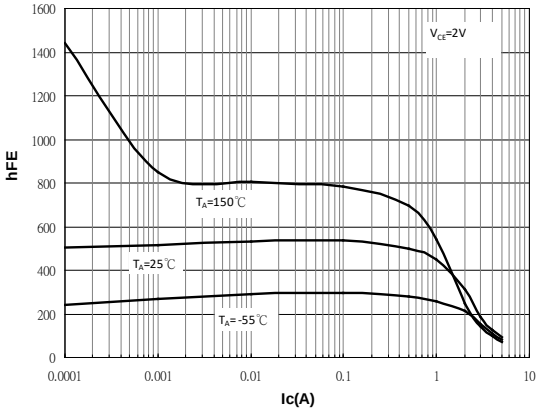


FIG.1 - DC current gain as a function of collector current

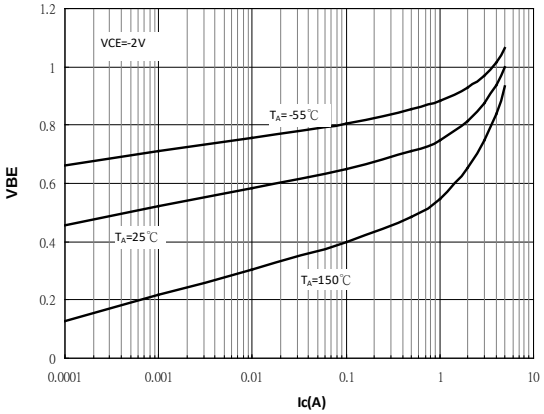


FIG.2 - Base-emitter voltage as a function of collector current

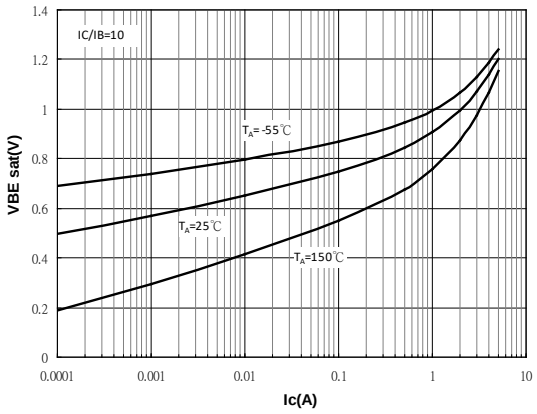


FIG.3 - Base-emitter saturation voltage as a function of collector current

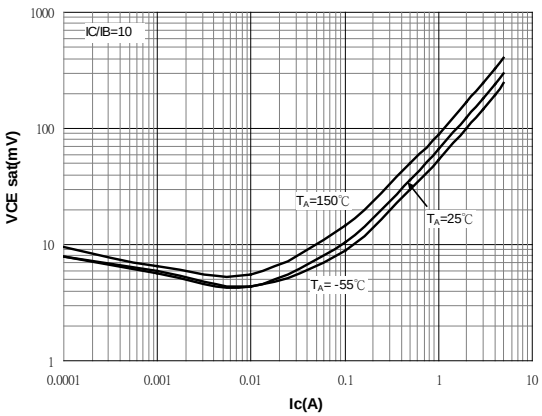


FIG.4 - Collector-emitter saturation voltage as a function of collector current

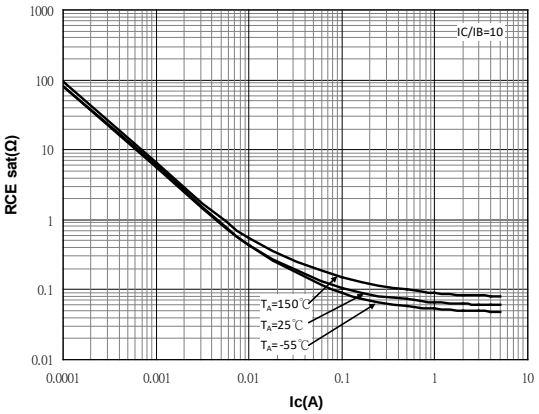
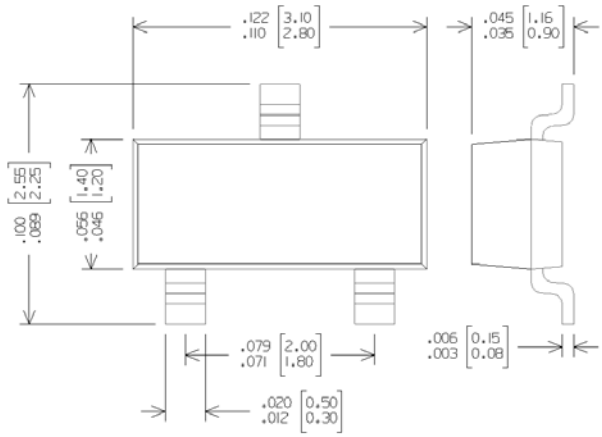


FIG.5 - Equivalent on-resistance as a function of collector current

PHYSICAL DIMENSION

Unit：Inch (Millimeter)

SOT-23



SOT-89