

# U.S. European Type Series

## SST (U.S. / European SOT-23) • SMT (SC-59 / Japanese SOT-23)

### Package style and dimensions

(Unit : mm)

Package	<p style="text-align: center;"><b>SST</b> (U. S. / European SOT-23)</p>	<p style="text-align: center;"><b>SMT</b> (SC-59 / Japanese SOT-23)</p>
Dimensions	<p style="text-align: center;">TOP VIEW</p> <p>(1) Emitter (2) Base (3) Collector</p>	<p style="text-align: center;">TOP VIEW</p> <p>Each lead has same dimensions</p> <p>(1) Emitter (2) Base (3) Collector</p>
Actual size		
Enlarged (×3.0)		
<p>Recommendable copper plate area dimension on printed circuit board</p>		

## NPN Transistors

Electrical characteristics of each part No. can be looked up from the data of DIE No.

### ■ General purpose small signal amplifiers

Part No. Package		BV <sub>CEO</sub> Min.	BV <sub>CE0</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @V <sub>CB</sub> Max.	h <sub>FE</sub> Min. Max.	@I <sub>C</sub> & V <sub>CE</sub>	V <sub>CE(sat)</sub> Max.	V <sub>BE(sat)</sub> & Max.	@ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min.	@ I <sub>C</sub>	NF	I <sub>C</sub> Max.	Marking	DIE NO.
SST	SMT																
SST1130	MMST1130	30V	25V	5V	50nA 20V	120 360	2mA 1V 50mA 1V	0.3V	0.95V	50mA	4pF				200mA	R1C	C22
SST5088	MMST5088	35V	30V	4.5V	100nA 30V	300 900	100μA 5V 1.0mA 5V 10mA 5V	0.3V	0.8V	10mA	4pF	50MHz	0.5mA	3dB	200mA	R1Q	C22
SST5089	MMST5089	30V	25V	4.5V	100nA 25V	400 1200	0.1mA 5V 1mA 5V 10mA 5V	0.5V	0.8V	10mA	4pF	50MHz	0.5mA		200mA	R1R	C22
SST5210	—	50V	50V	4.5V	50nA 35V	200 600	100μA 5V 1.0mA 5V 10mA 5V	0.7V	0.85V	10mA	4pF	30MHz	0.5mA	2dB	200mA	RSR	C22
SST6428	MMST6428	60V	50V	6V	100nA 30V	250 250	0.01mA 5V 0.1mA 5V 1mA 5V 10mA 5V	0.2V		10mA	3pF	100MHz	1mA		200mA	R1K	C22
SST6838	MMST6838	50V	40V	5V	0.5μA 30V	200 150	1mA 5V 10mA 5V	0.4V		50mA	3.5pF	50MHz	2mA		200mA	RBR	C22
SST7208	—	60V	60V	5V	0.2μA 60V (CER)	75 100	10mA 5V 1mA 5V	0.5V 0.4V 0.3V	1.2V 1.0V 0.95V	100mA 10mA 1mA		180MHz	Typ.		100mA	RBQ	C22
SSTT97	—	60V	40V	6V	50nA 40V	250 700	0.1mA 5V		0.65V	0.1mA	4pF			2dB	200mA	R97	C22
SSTA20	MMSTA20	40V	40V	5V	100nA 30V	120	2mA 1V	0.25V	0.95V	10mA	4pF	125MHz	5mA		200mA	R1C	C22

### ■ General purpose amplifiers and switches

Part No. Package		BV <sub>CEO</sub> Min.	BV <sub>CE0</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @V <sub>CB</sub> Max.	h <sub>FE</sub> Min. Max.	@I <sub>C</sub> & V <sub>CE</sub>	V <sub>CE(sat)</sub> Max.	V <sub>BE(sat)</sub> & Max.	@ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min.	@ I <sub>C</sub>	t <sub>off</sub> Max.	I <sub>C</sub> Max.	Marking	DIE NO.
SST	SMT																
SST2222	MMST2222	60V	30V	5V	100nA 50V	35 50 75 100	0.1mA 10V 1.0mA 10V 10mA 10V 150mA 10V	0.4V 1.6V	1.3V 2.6V	150mA 500mA	8pF	250MHz	20mA		600mA	R1B	C31
SST2222A	MMST2222A	75V	40V	6V	100nA 60V	35 50 75 100	0.1mA 10V 1.0mA 10V 10mA 10V 150mA 10V	0.3V 1V	1.2V 2V	150mA 500mA	8pF	250MHz	20mA	285ns	600mA	R1P	C31
SST3904	MMST3904	60V	40V	6V	50nA 30V (CEX)	40 70 100 60 30	0.1mA 1V 1.0mA 1V 10mA 1V 50mA 1V 100mA 1V	0.2V 0.3V	0.85V 0.95V	10mA 50mA	4pF	300MHz	10mA	250ns	200mA	R1A	C37
SST4124	MMST4124	30V	25V	5V	50nA 20V	120 60	2.0mA 1V 50mA 1V	0.3V	0.95V	50mA	4pF	300MHz	10mA		200mA	RZC	C37
SST4400	—	60V	40V	6V	100nA 35V	20 40 50 20	1.0mA 1V 10mA 1V 150mA 1V 500mA 2V	0.4V 0.75V	0.95V 1.2V	150mA 500mA	6.5pF	200MHz	20mA	255ns	600mA	R2Z	C31
SST4401	MMST4401	60V	40V	6V	100nA 35V	20 40 80 100 40	0.1mA 1V 1mA 1V 10mA 1V 150mA 1V 500mA 2V	0.4V 0.75V	0.95V 1.2V	150mA 500mA	6.5pF	250MHz	20mA	225ns	600mA	R2X	C31

# U.S. European Type Series

## NPN Transistors

Electrical characteristics of each part No. can be looked up from the data of DIE No.

### ■ Medium power amplifiers

Part No. Package		BV <sub>CBO</sub> Min.	BV <sub>CEO</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @V <sub>CB</sub> Max.	h <sub>FE</sub> @I <sub>C</sub> & V <sub>CE</sub>			V <sub>CE(sat)</sub> Max.	& V <sub>BE(sat)</sub> Max.	@ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min.	@ I <sub>C</sub>	t <sub>off</sub> Max.	I <sub>C</sub> Max.	Marking	DIE NO.	
SST	SMT					Min.	Max.												
SSTA05	—	60V	60V	4V	100nA 60V	100	10mA 1V	100	100mA 1V	0.25V	1.2V (V <sub>BE(on)</sub> )	100mA		100MHz	10mA		500mA	R1H	D16
SSTA06	MMSTA06	80V	80V	4V	100nA 80V	100	10mA 1V	100	100mA 1V	0.25V	1.2V (V <sub>BE(on)</sub> )	100mA		100MHz	10mA		500mA	R1G	D16

### ■ Darlington amplifiers

Part No. Package		BV <sub>CBO</sub> Min.	BV <sub>CEO</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @V <sub>CB</sub> Max.	h <sub>FE</sub> @I <sub>C</sub> & V <sub>CE</sub>				V <sub>CE(sat)</sub> Max.	& V <sub>BE(sat)</sub> Max.	@ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min.	@ I <sub>C</sub>	NF	I <sub>C</sub> Max.	Marking	DIE NO.
SST	SMT					Min.	Max.												
SST6426	—	40V	40V	12V	50nA 30V	20K 200K 10mA 5V	30K 300K 100mA 5V	20K 200K 500mA 5V	10K 100K 10mA 5V	1.2V	2.0V	5mA 500mA	7pF			10dB	500mA	RX7	D25
SST6427	—	40V	40V	12V	50nA 30V	10K 100K 10mA 5V	20K 200K 100mA 5V	14K 140K 500mA 5V	10K 100K 10mA 5V	1.2V	2.0V	50mA 500mA	7pF			10dB	500mA	R1J	D25
SSTA13	MMSTA13	(CES) 30V		10V	100nA 30V	5K 10mA 5V	10K 100mA 5V			1.5V		100mA	10pF	125MHz	10mA		500mA	R1M	D25
SSTA14	MMSTA14	(CES) 30V		10V	100nA 30V	10K 10mA 5V	20K 100mA 5V			1.5V		100mA	10pF	125MHz	10mA		500mA	R1N	D25
SSTA28	MMSTA28	(CES) 80V		12V	100nA 60V	10K 10mA 5V	10K 100mA 5V			1.5V		100mA	8pF	125MHz	10mA		500mA	RAT	D69
SSTA29	—	(CES) 100V		12V	100nA 80V	10K 10mA 5V	10K 100mA 5V			1.2V		10mA	8pF	125MHz	10mA		500mA	RAF	D69

### ■ RF/UHF/VHF amplifiers

Part No. Package		BV <sub>CBO</sub> Min.	BV <sub>CEO</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @V <sub>CB</sub> Max.	h <sub>FE</sub> @I <sub>C</sub> & V <sub>CE</sub>			V <sub>CE(sat)</sub> Max.	& V <sub>BE(sat)</sub> Max.	@ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min.	@ I <sub>C</sub>	NF	I <sub>C</sub> Max.	Marking	DIE NO.	
SST	SMT					Min.	Max.												
SST1139	MMST1139	30V	25V	3V	100nA 25V	60	4mA 10V			0.5V		4mA	1pF	850MHz	4mA		30mA	R39	C104
SST5424	MMST5424	30V	20V	3V	100nA 18V (CES)	60	150 2.5mA 4V			0.4V	1.0V	10mA	1.2pF	600MHz	2.5mA		50mA	R24	C33
SST8245	MMST8245	30V	20V	3V	100nA 18V (CES)	60	150 2.5mA 4V			0.4V	1.0V	10mA	1.2pF	600MHz	2.5mA		50mA	R3B	C33
SST918	—	30V	15V	3V	100nA 15V	20	3mA 1V			0.4V	1.0V	10mA	1.7pF	600MHz	4mA	6dB	50mA	R3B	C33
SST918S	MMST918S	30V	15V	3V	100nA 15V	75	3mA 1V			0.4V	1.0V	10mA	1.7pF	600MHz	4mA		50mA	RVY	C33

## PNP Transistors

Electrical characteristics of each part No. can be looked up from the data of DIE No.

### ■ General purpose small signal amplifiers

Part No. Package		BV <sub>CB0</sub> Min.	BV <sub>CEO</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @ V <sub>CB</sub> Max.	h <sub>FE</sub> Min. Max.	@ I <sub>C</sub> & V <sub>CE</sub>	V <sub>CE(sat)</sub> & V <sub>BE(sat)</sub> Max. @ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min. @ I <sub>C</sub>	t <sub>off</sub> /NF Max.	I <sub>C</sub> Max.	Marking	DIE NO.
SST	SMT													
SST5086	MMST5086	50V	50V	3V	100nA 40V	150 500	100 μA 5V 150 1.0mA 5V 150 10mA 5V	0.3V 10mA	6pF	40MHz 0.5mA	NF 3dB	200mA	R2P	A32
SST5087	MMST5087	50V	50V	3V	100nA 40V	250 800	100 μA 5V 250 1.0mA 5V 250 10mA 5V	0.3V 10mA	6pF	40MHz 0.5mA	NF 2dB	200mA	R2Q	A32
SST5101	MMST5101	60V	40V	6V	100nA 55V	200 400	10mA 5V	0.15V 10mA	8pF	125MHz 2mA		200mA	1T1	A32
SST6839	MMST6839	50V	40V	5V		100 1mA 5V 100 100mA 5V		0.5V 100mA	3.5pF	50MHz 2mA		200mA	RFQ	A32
SST7157	MMST7157	60V	60V	5V	100nA 25V	100 1mA 5V 100 100mA 5V		0.25V 100mA				200mA	R2C	A32
SST8598	MMST8598	60V	60V	5V	100nA 60V	100 300	1mA 5V	0.5V 100mA	8pF	150MHz 10mA		200mA	R2K	A32
SSTA70	MMSTA70	60V	60V	5V	100nA 30V	160 400	5mA 10V	0.2V 100mA	5pF	125MHz 5mA		200mA	R2C	A32

### ■ General purpose amplifiers and switches

Part No. Package		BV <sub>CB0</sub> Min.	BV <sub>CEO</sub> Min.	BV <sub>EBO</sub> Min.	I <sub>CBO</sub> @ V <sub>CB</sub> Max.	h <sub>FE</sub> Min. Max.	@ I <sub>C</sub> & V <sub>CE</sub>	V <sub>CE(sat)</sub> & V <sub>BE(sat)</sub> Max. @ I <sub>C</sub>	C <sub>ob</sub> Max.	f <sub>T</sub> Min. @ I <sub>C</sub>	t <sub>off</sub> Max.	I <sub>C</sub> Max.	Marking	DIE NO.
SST	SMT													
SST2907	MMST2907	60V	40V	5V	100nA 50V	35 0.1mA 10V 50 1.0mA 10V 75 10mA 10V 100 300 150mA 10V 30 500mA 10V		0.4V 1.3V 150mA 1.6V 2.6V 500mA	8pF	200MHz 50mA	180ns	600mA	R2B	A31
SST2907A	MMST2907A	60V	60V	5V	100nA 50V	75 0.1mA 10V 100 1.0mA 10V 100 10mA 10V 100 300 150mA 10V 50 500mA 10V		0.4V 1.3V 150mA 1.6V 2.6V 500mA	8pF	200MHz 50mA	180ns	600mA	R2F	A31
SST3906	MMST3906	40V	40V	5V	50nA 30V (CES)	60 0.1mA 1V 80 1.0mA 1V 100 300 10mA 1V 60 50mA 1V 30 100mA 1V		0.25V 0.85V 10mA 0.4V 0.95V 50mA	4.5pF	250MHz 10mA	300ns	200mA	R2A	A38
SST4126	MMST4126	25V	25V	4V	50nA 20V	120 360 2mA 1V 60 50mA 1V		0.4V 0.95V 50mA	4.5pF	250MHz 10mA		200mA	RVZ	A38
SST4403	MMST4403	40V	40V	5V	100nA 35V	30 0.1mA 1V 60 1mA 1V 100 10mA 1V 100 300 150mA 2V 20 500mA 2V		0.4V 0.95V 150mA 0.75V 1.3V 500mA	8.5pF	200MHz 20mA	255ns	600mA	R2T	A31
SSTIS93	—	40V	40V	5V	100nA 20V	100 300 50mA 2V		0.25V 50mA				800mA	R93	A31

# U.S. European Type Series

## PNP Transistors

Electrical characteristics of each Part No. can be looked up from the data of DIE No.

### ■ Medium power amplifiers

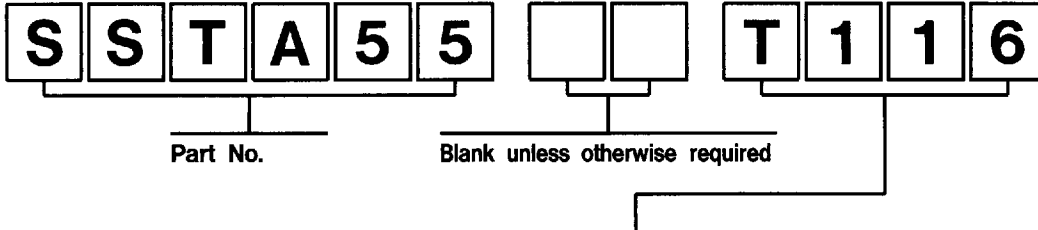
Part No. Package		$V_{CB0}$ Min.	$V_{CE0}$ Min.	$V_{EB0}$ Min.	$I_{CB0}$ Max. @ $V_{CB}$	$h_{FE}$ @ $I_C$ & $V_{CE}$			$V_{CE(sat)}$ Max. & $V_{BE(sat)}$ Max. @ $I_C$	$C_{ob}$ Max.	$f_T$ Min. @ $I_C$	$t_{off}$ Max.	$I_C$ Max.	Marking	DIE NO.
SST	SMT					Min.	Max.	@ $I_C$ & $V_{CE}$							
SSTA55	—	60V	60V	4V	100nA 60V	100	10mA 1V	100 100mA 1V	0.25V 1.2V 100mA		50MHz 100mA		500mA	R2H	B93
SSTA56	MMSTA56	80V	80V	4V	100nA 80V	100	10mA 1V	100 100mA 1V	0.25V 1.2V 100mA		50MHz 100mA		500mA	R2G	B93

### ■ Darlington amplifiers

Part No. Package		$V_{CB0}$ Min.	$V_{CE0}$ Min.	$V_{EB0}$ Min.	$I_{CB0}$ Max. @ $V_{CB}$	$h_{FE}$ @ $I_C$ & $V_{CE}$			$V_{CE(sat)}$ Max. & $V_{BE(sat)}$ Max. @ $I_C$	$C_{ob}$ Max.	$f_T$ Min. @ $I_C$	$t_{off}/NF$	$I_C$ Max.	Marking	DIE NO.
SST	SMT					Min.	Max.	@ $I_C$ & $V_{CE}$							
SSTA63	MMSTA63	30V	30V (CES)	10V	100nA 30V	5K	10mA 5V	10K 100mA 5V	1.5V 100mA	7pF	125MHz 10mA	3dB	300mA	R2U	B25
SSTA64	MMSTA64	30V	30V (CES)	10V	100nA 30V	10K	10mA 5V	20K 100mA 5V	1.5V 100mA	7pF	125MHz 10mA	3dB	300mA	R2V	B25
SSTA65	—	30V	(CES) 30V	8V	100nA 30V	50K	10mA 5V	20K 100mA 5V	1.5V 100mA		100MHz 10mA	2dB	300mA	R65	B25

## Ordering Information

Product designation consists of type No. and packaging specification code is needed for ordering information.



## Packaging specifications code

Package	Code	Packaging type	Packaging condition	Direction	Quantity/Taping (pcs)
SST	T116	Taping	Embossed smaller reel tape	1 pin side on sprocket hole side	3,000
	T117			2 pins side on sprocket hole side	
	T216		Embossed larger reel tape	1 pin side on sprocket hole side	
	-			2 pins side on sprocket hole side	
SMT	T146	Taping	Embossed smaller reel tape	1 pin side on sprocket hole side	3,000
	T147			2 pins side on sprocket hole side	
	T246		Embossed larger reel tape	1 pin side on sprocket hole side	
	T247			2 pins side on sprocket hole side	

## Packaging specifications

(Unit : mm)

S M A L L E R R E E L

L A R G E R R E E L

**Tape**

Package	Code	
SST	Smaller reel	T116
	Larger reel	T216
SMT	Smaller reel	T146
	Larger reel	T246

Package	Size		
	A	B	C
SST	3.15±0.1	2.85±0.1	1.4±0.1
SMT	3.1±0.1	3.2±0.1	1.35±0.1

Package	Code	
SST	Smaller reel	T117
	Larger reel	-
SMT	Smaller reel	T147
	Larger reel	T247