

Transistors

NPN general purpose transistor

SSTA28 / MMSTA28

●Features

1) $BV_{CES} < 80V$ ($I_C=100\mu A$)

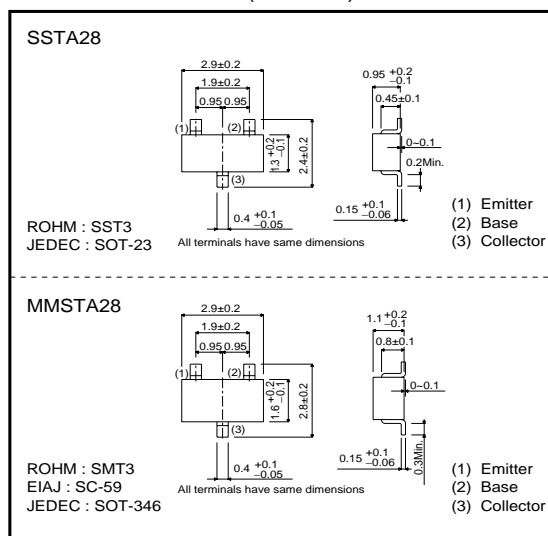
●Package, marking and packaging specifications

Part No.	SSTA28	MMSTA28
Packaging type	SST3	SMT3
Marking	RAT	RAT
Code	T116	T146
Basic ordering unit (pieces)	3000	3000

●Absolute maximum ratings ($T_a=25^\circ C$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	80	V
Emitter-base voltage	V_{EBO}	12	V
Collector current	I_C	0.3	A
Collector power dissipation	P_C	0.2	W
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

●External dimensions (Unit : mm)

●Electrical characteristics ($T_a=25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	$I_C = 100\mu A$
Collector-emitter breakdown voltage	BV_{CES}	80	—	—	V	$I_C = 100\mu A$
Emitter-base breakdown voltage	BV_{EBO}	12	—	—	V	$I_E = 10\mu A$
Collector cutoff current	I_{CBO}	—	—	0.1	μA	$V_{CB} = 60V$
	I_{BEO}	—	—	0.1	μA	$V_{EB} = 10V$
	I_{CES}	—	—	0.5	μA	$V_{CE} = 10V$
Collector-emitter saturation voltage	$V_{CE(sat)1}$	—	0.7	1.2	V	$I_C/I_B = 10mA/10\mu A$
	$V_{CE(sat)2}$	—	0.8	1.5	V	$I_C/I_B = 100mA/0.1mA$
Base-emitter saturation voltage	$V_{BE(on)}$	—	1.4	2.0	V	$V_{CE}/I_B = 5V/100mA$
DC current transfer ratio	h_{FE}	10000	—	—	—	$V_{CE} = 5V, I_C = 10mA$
		10000	—	—	—	$V_{CE} = 5V, I_C = 100mA$
Transition frequency	f_T	125	200	—	MHz	$V_{CE} = 5V, I_E = 10mA, f = 100MHz$
Output Capacitance	C_{ob}	—	5.0	8.0	pF	$V_{CB} = 10V, I_E = 0, f = 1MHz$

Transistors

●Electrical characteristic curves

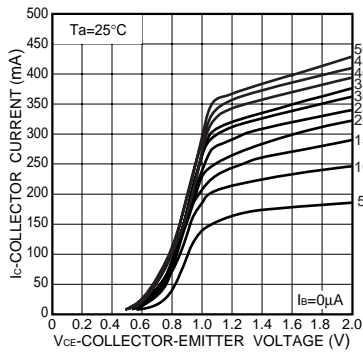


Fig.1 Grounded emitter output characteristics

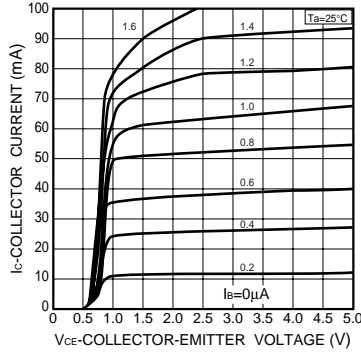


Fig.2 Typical output characteristics

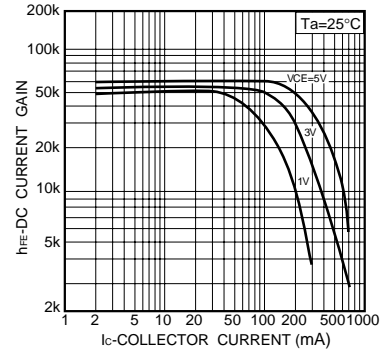


Fig.3 DC current gain vs. collector current (II)

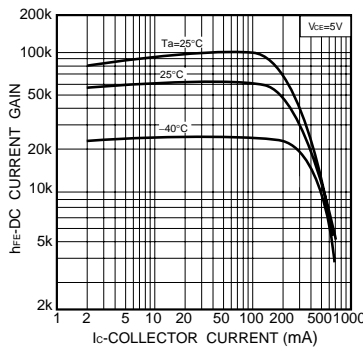


Fig.4 DC current gain vs. collector current

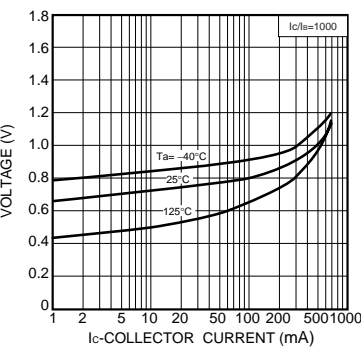


Fig.5 Collector emitter saturation voltage vs collector current

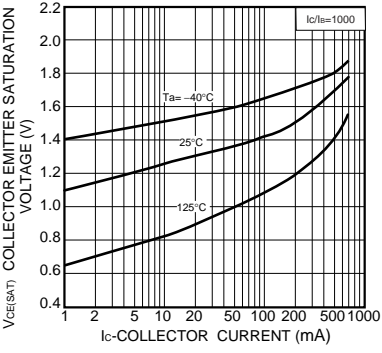


Fig.6 Base emitter saturation voltage vs collector current

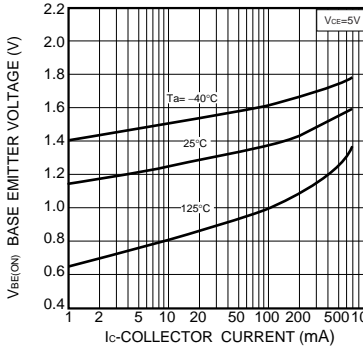


Fig.7 Base emitter "ON" voltage vs collector current

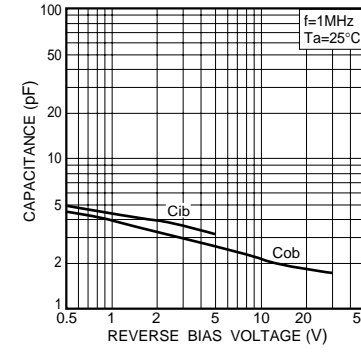


Fig.8 Capacitance vs reverse bias voltage

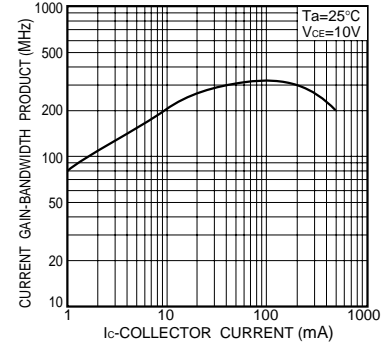


Fig.9 Current gain-bandwidth product vs collector current

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