Continued from preceding page.

Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	P_C		500	mW
		When mounted on ceramic substrate (250mm^2×0.8mm)	1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

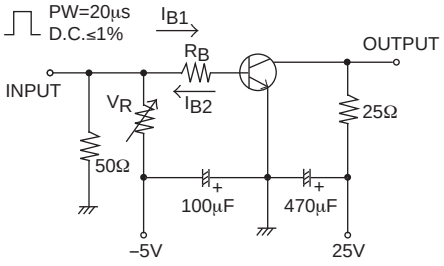
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(−)40V, I_E=0A			(−)1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(−)4V, I_C=0A			(−)1	μA
DC Current Gain	$h_{FE}1$	V_{CE}=(−)2V, I_C=(−)100mA	100*		560*	
	$h_{FE}2$	V_{CE}=(−)2V, I_C=(−)3A	35			
Gain-Bandwidth Product	f_T	V_{CE}=(−)10V, I_C=(−)50mA		150		MHz
Output Capacitance	Cob	V_{CB}=(−)10V, f=1MHz		(39)25		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(−)2A, I_B=(−)100mA		(−0.35)0.19	(−0.7)0.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	V_{CE}=(−)2A, I_C=(−)100mA		(−)0.94	(−)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(−)10μA, I_E=0A	(−)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(−)1mA, R_{BE}=∞	(−)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(−)10μA, I_C=0A	(−)6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		(70)70		ns
Storage Time	t_{stg}			(450)650		ns
Fall Time	t_f			(35)35		ns

* ; The 2SB1124/2SD1624 are classified by 100mA h_{FE} as follows :

Rank	R	S	T	U
h_{FE}	100 to 200	140 to 280	200 to 400	280 to 560

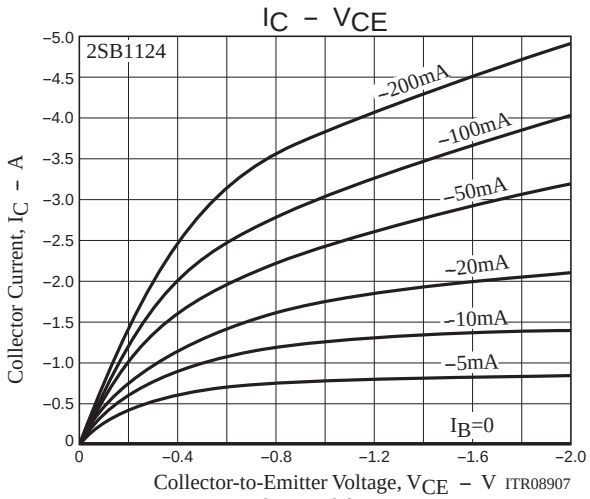
Switching Time Test Circuit

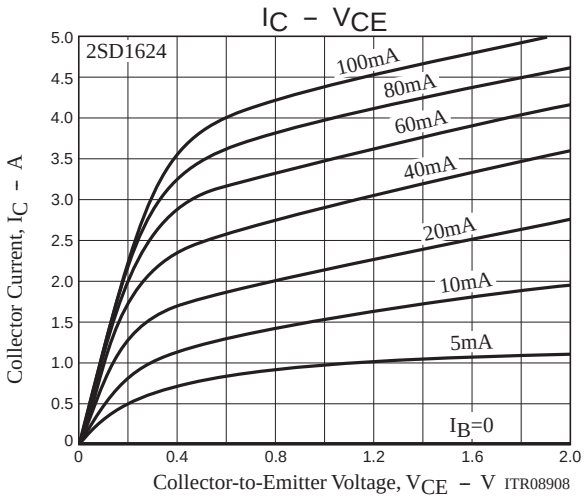


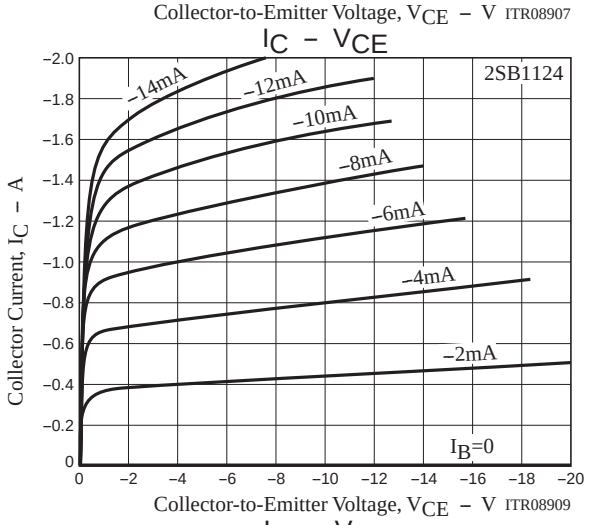
I_C=10I_{B1}= −10I_{B2}=1A
For PNP, the polarity is reversed.

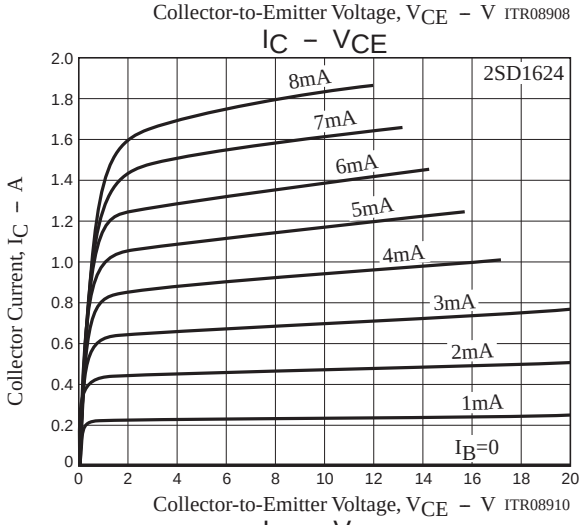
Ordering Information

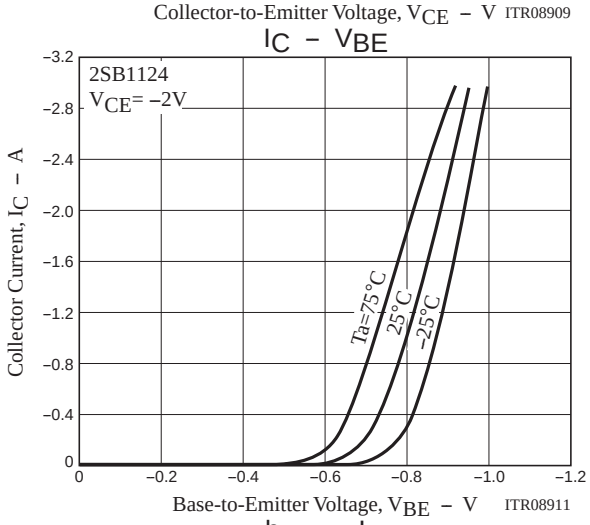
Device	Package	Shipping	memo
2SB1124S-TD-E	PCP	1,00pcs./reel	Pb Free
2SB1124S-TD-H	PCP	1,00pcs./reel	Pb Free and Halogen Free
2SB1124T-TD-E	PCP	1,00pcs./reel	Pb Free
2SB1124T-TD-H	PCP	1,00pcs./reel	Pb Free and Halogen Free
2SD1624S-TD-E	PCP	1,00pcs./reel	Pb Free
2SD1624S-TD-H	PCP	1,00pcs./reel	Pb Free and Halogen Free
2SD1624T-TD-E	PCP	1,00pcs./reel	Pb Free
2SD1624T-TD-H	PCP	1,00pcs./reel	Pb Free and Halogen Free

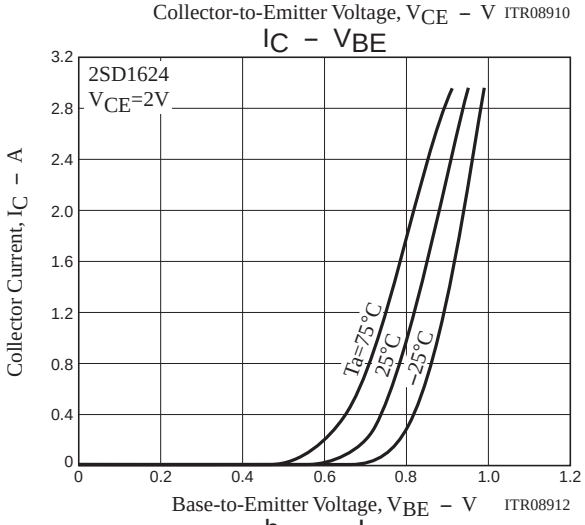


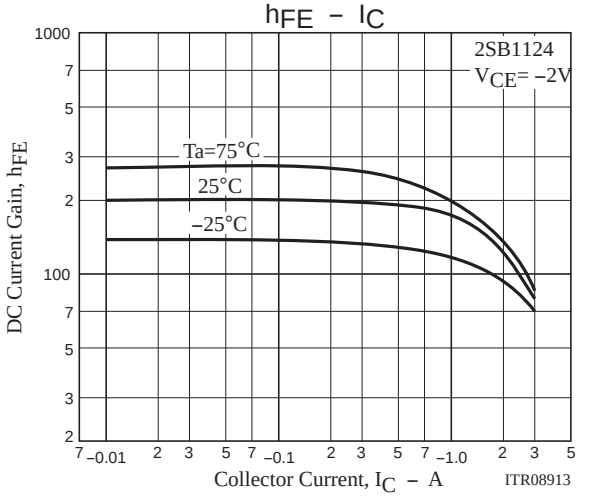


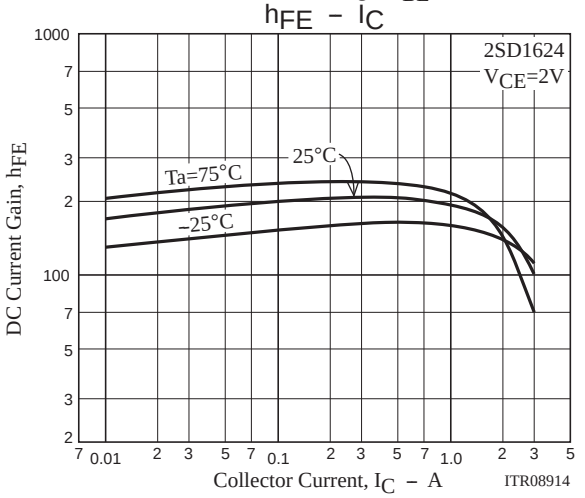


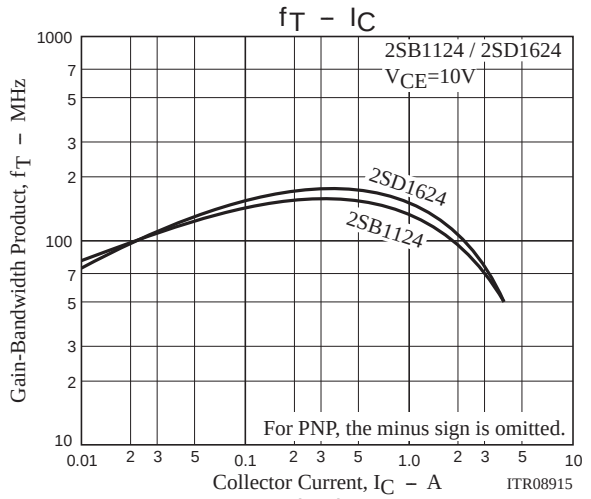


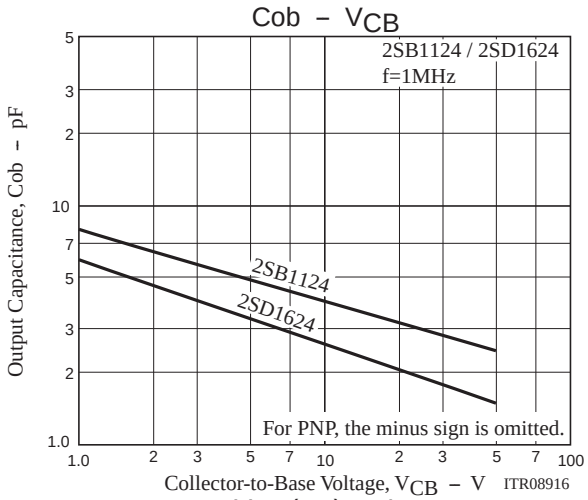


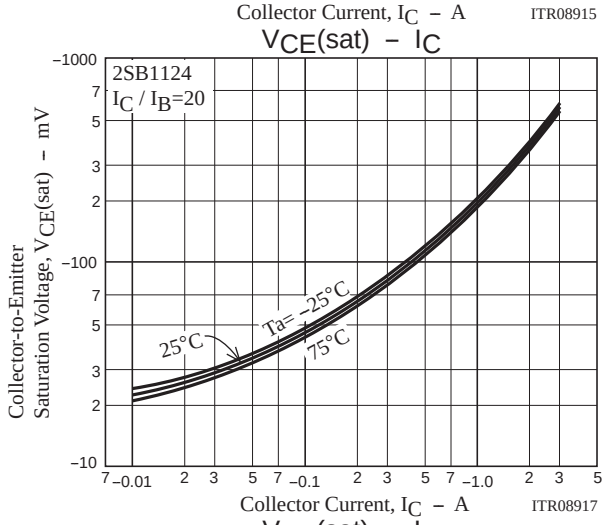


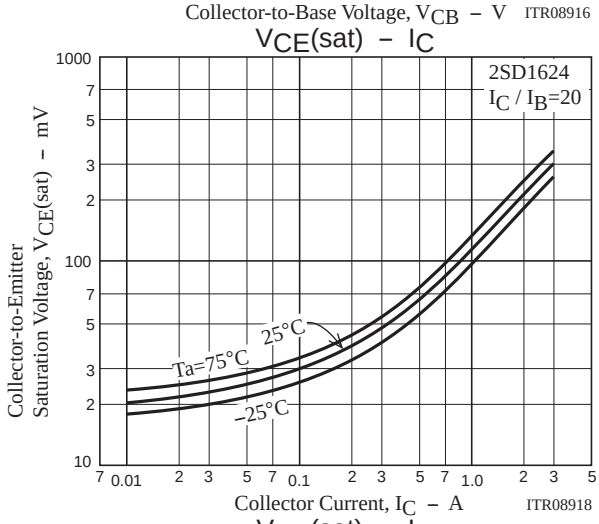


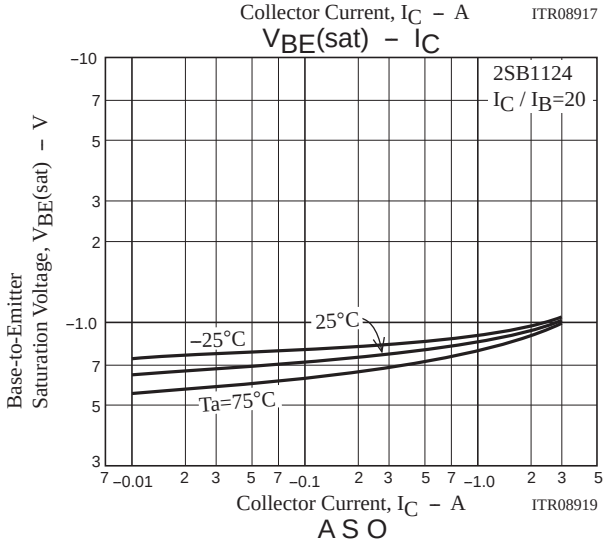


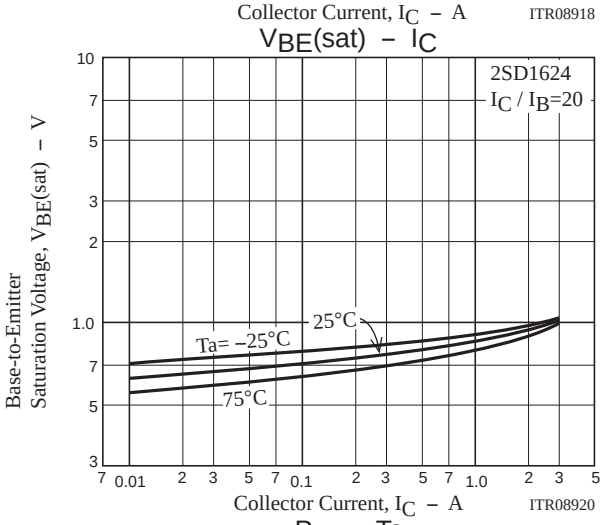


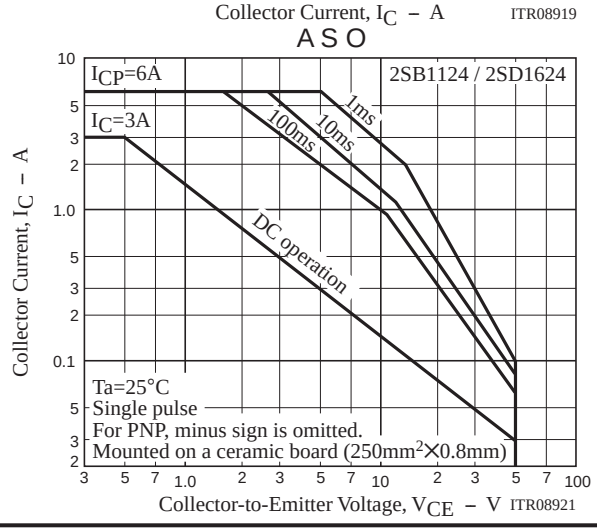


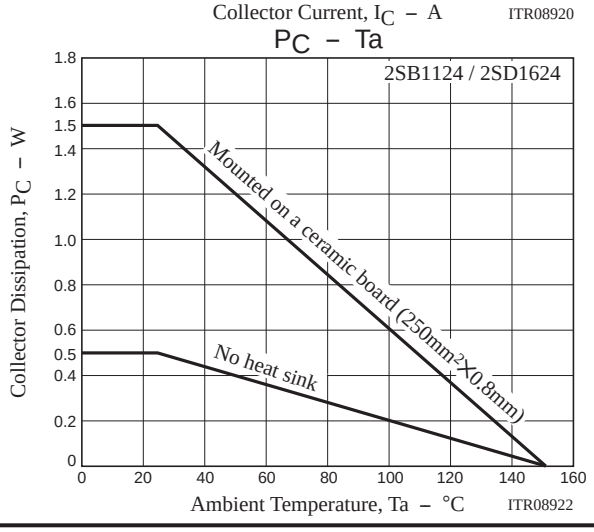












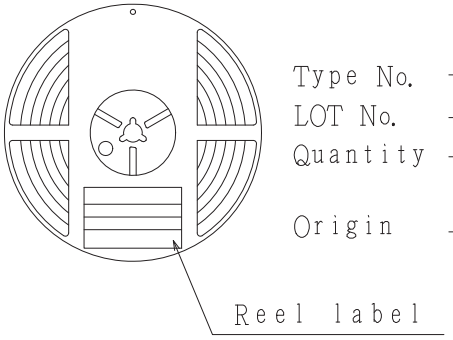
Bag Packing Specification

2SB1124S-TD-E, 2SB1124S-TD-H, 2SB1124T-TD-E, 2SB1124T-TD-H, 2SD1624S-TD-E, 2SD1624S-TD-H, 2SD1624T-TD-E, 2SD1624T-TD-H

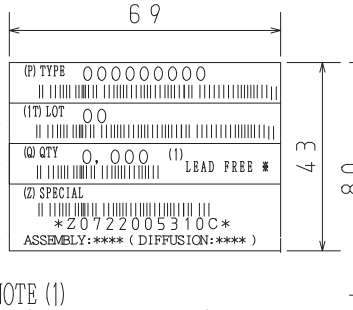
1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
PCP	PCP	1,000	4,000	24,000	4 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method

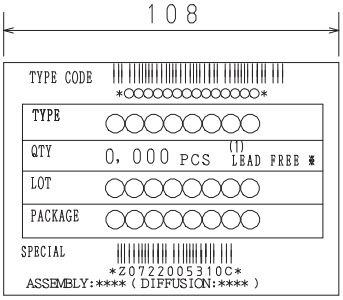


Reel label, Inner box label (unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.

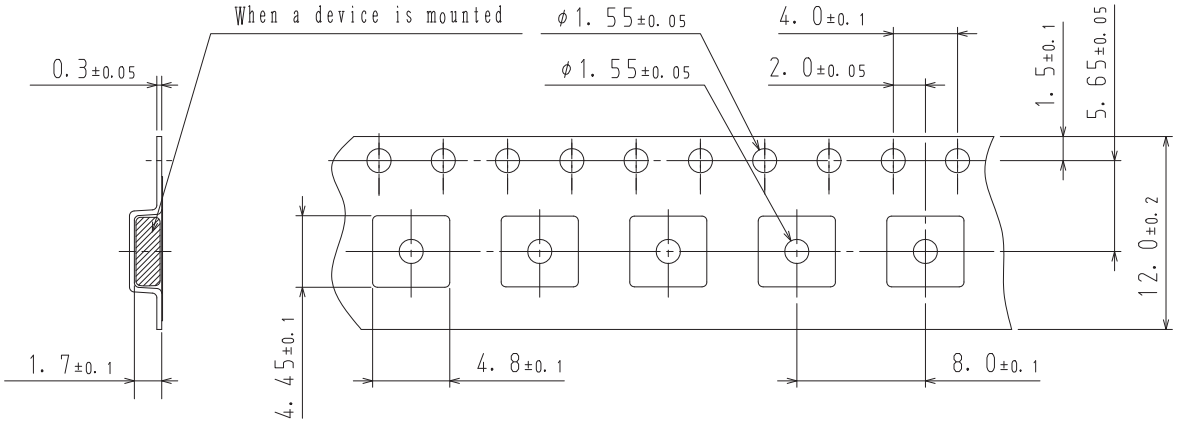


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

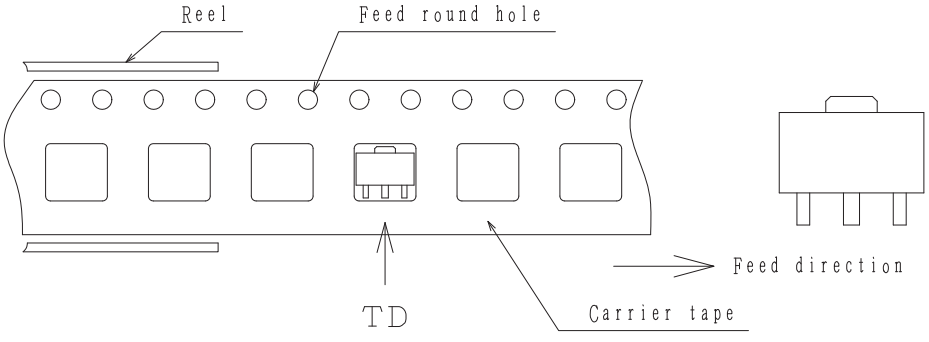
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction



Those with pin 1 index on the feed hole side……TD

Outline Drawing

Land Pattern Example

2SB1124S-TD-E, 2SB1124S-TD-H, 2SB1124T-TD-E, 2SB1124T-TD-H, 2SD1624S-TD-E, 2SD1624S-TD-H, 2SD1624T-TD-E, 2SD1624T-TD-H