

SANYO	No.3872	2SA1824/2SC4728
		PNP/NPN Epitaxial Planar Silicon Transistors 50V/5A Switching Applications

Applications

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- Low collector-to-emitter saturation voltage.
- High Gain-Bandwidth Product.
- Excellent linearity of DC Current Gain.
- Fast switching speed.

() : 2SA1824

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector-to-Base Voltage	V _{CB0}	(-)60	V
Collector-to-Emitter Voltage	V _{CE0}	(-)50	V
Emitter-to-Base Voltage	V _{EB0}	(-)6	V
Collector Current	I _C	(-)5	A
Collector Current (Pulse)	I _{CP}	(-)8	A
Base Current	I _B	(-)1	A
Collector Dissipation	P _C	1.5	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta = 25°C

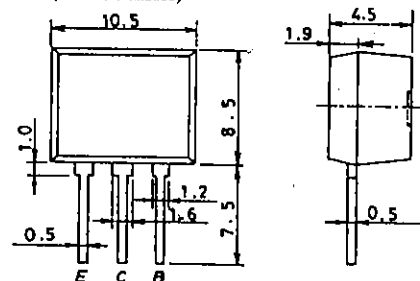
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} = (-)40V, I _E = 0			(-)1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} = (-)4V, I _C = 0			(-)1	μA
DC Current Gain	h _{FE} (1)	V _{CE} = (-)2V, I _C = (-)500mA	100*		400*	
	h _{FE} (2)	V _{CE} = (-)2V, I _C = (-)4A	35			
Gain-Bandwidth Product	f _T	V _{CE} = (-)5V, I _C = (-)1A	(130)180			MHz
Output Capacitance	C _{ob}	V _{CB} = (-)10V, f = 1MHz	(60)40			pF

Continued on next page.

* : The 2SA1824/2SC4728 are classified by 500mA h_{FE} as follows

100	R	200	140	S	280	200	T	400
-----	---	-----	-----	---	-----	-----	---	-----

Package Dimensions 2084
(unit : mm)



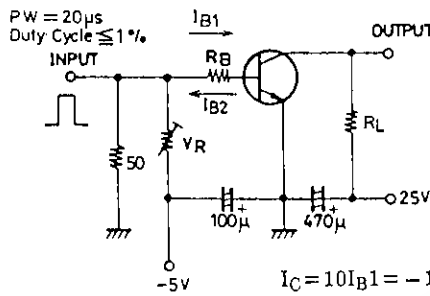
E : Emitter
C : Collector
B : Base

SANYO: FLP

Continued from preceding page.

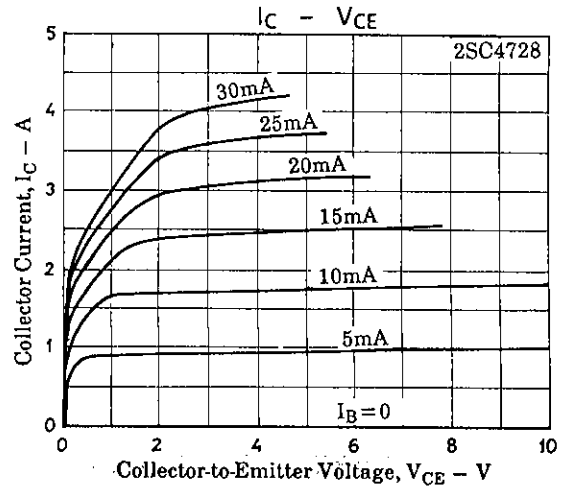
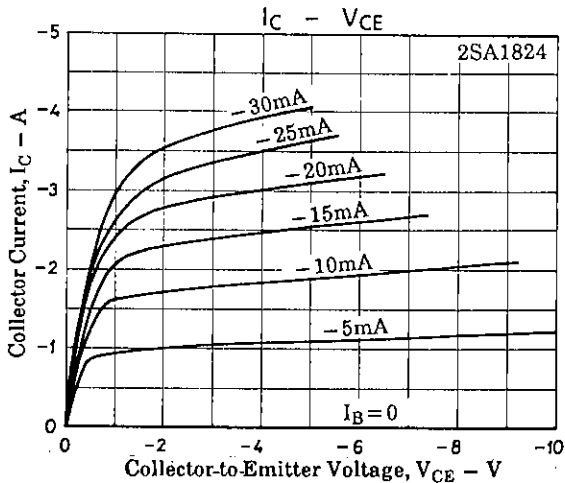
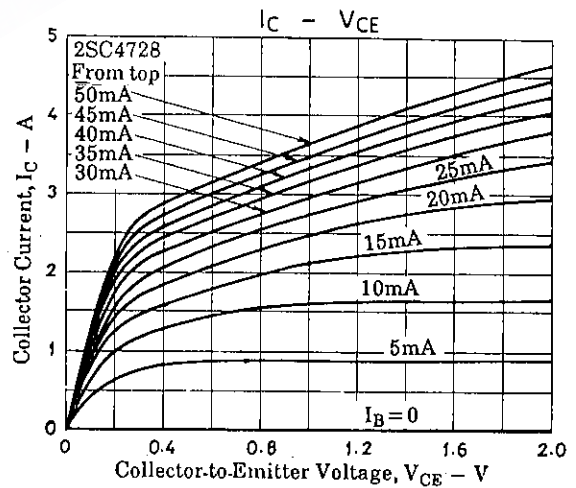
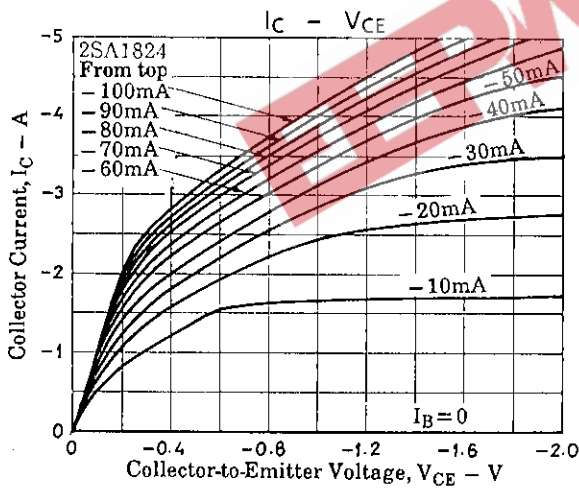
			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)3A, I_B = (-)0.15A$		(-280)	(-550)	mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)3A, I_B = (-)0.15A$		220	400	mV
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-60)			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-50)			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$	(-6)			V
Turn-on Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}	"		(450)500		ns
Fall Time	t_f	"		20		ns

Switching Time Test Circuit

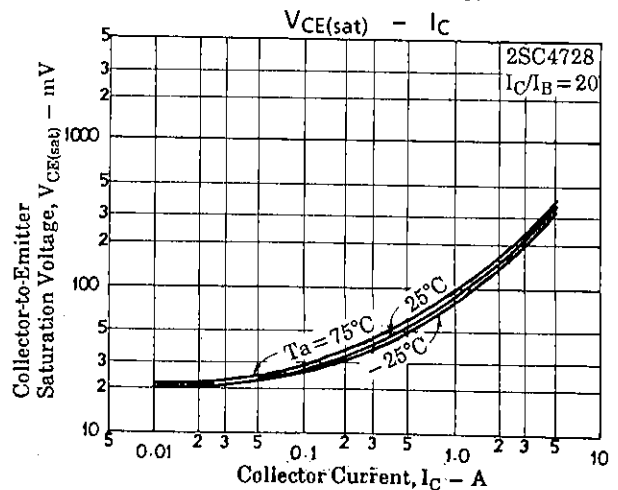
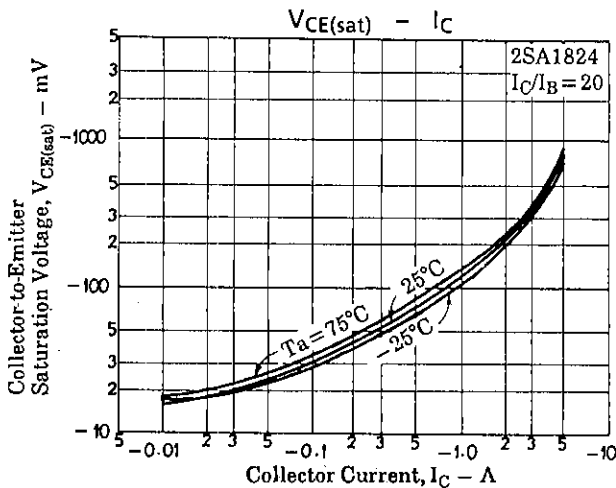
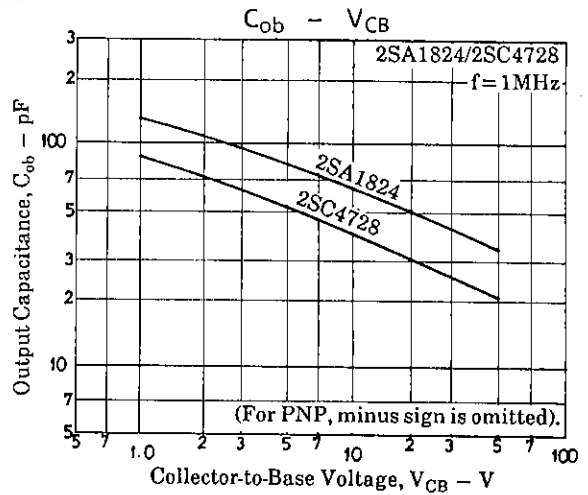
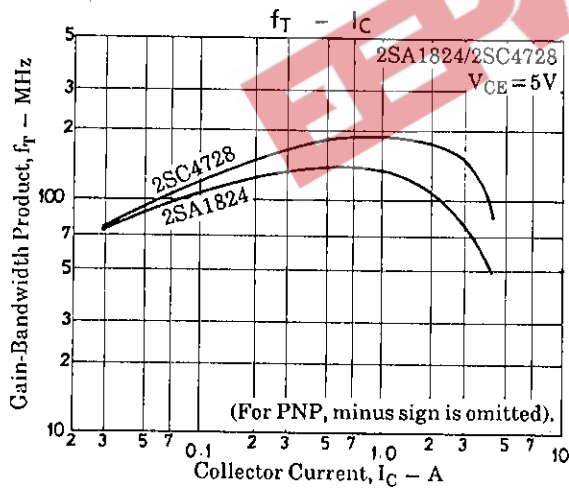
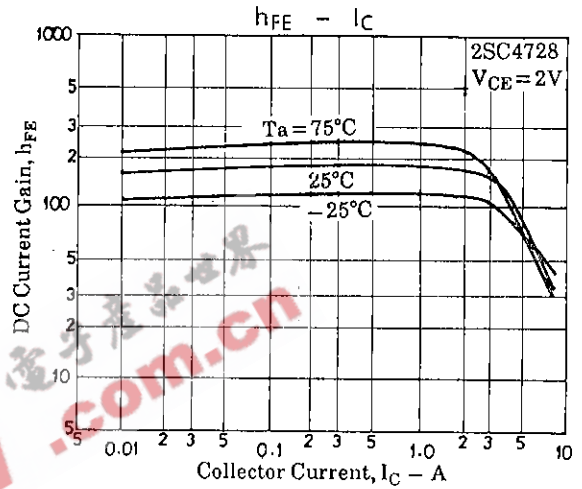
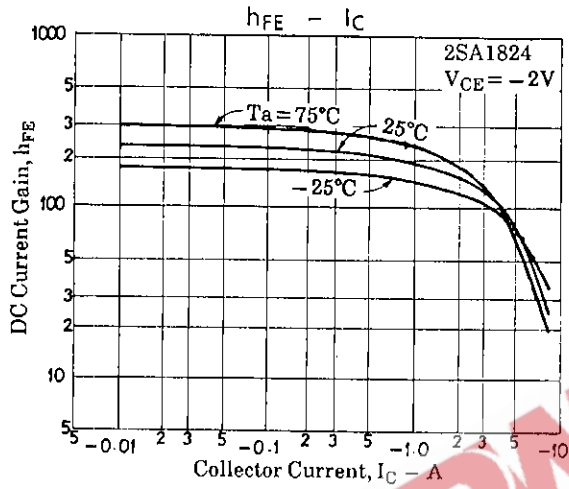
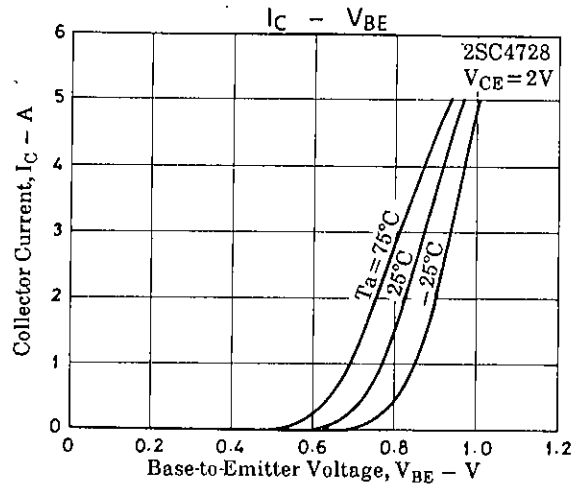
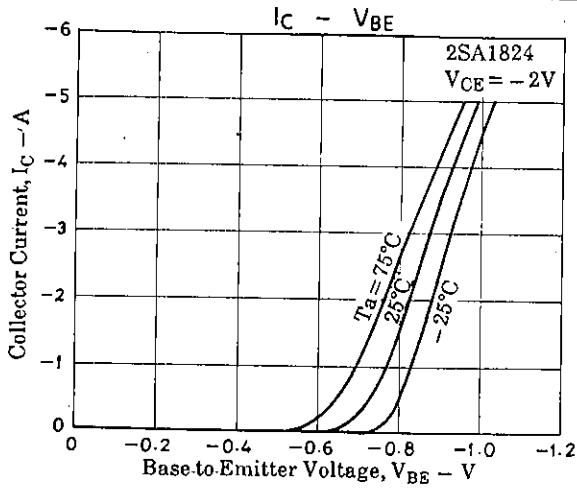


$I_C = 10I_{B1} = -10I_{B2} = 2A$
(For PNP, the polarity is reversed).

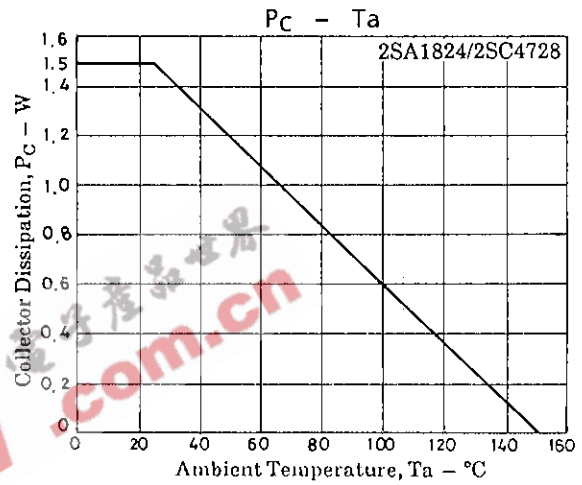
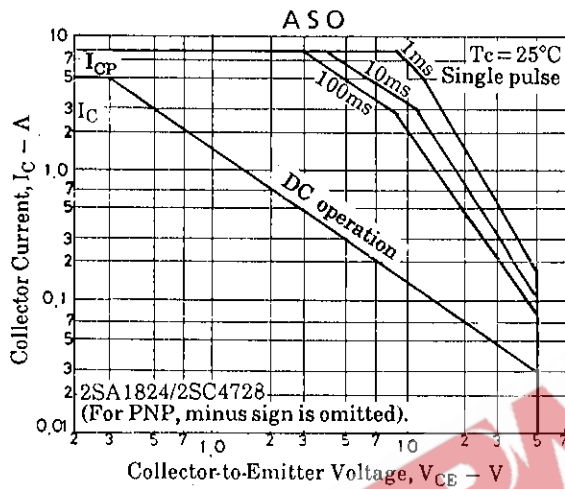
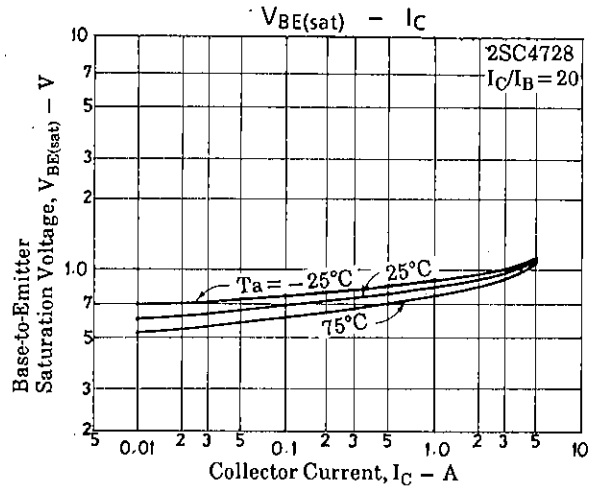
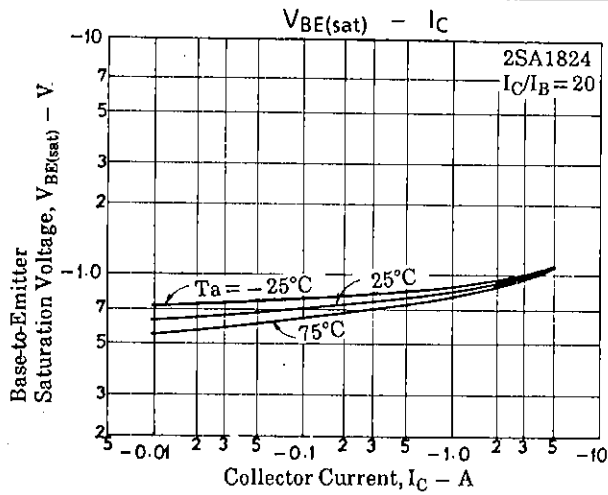
Unit (resistance: Ω , capacitance: F)



2SA1824/2SC4728



2SA1824/2SC4728



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.