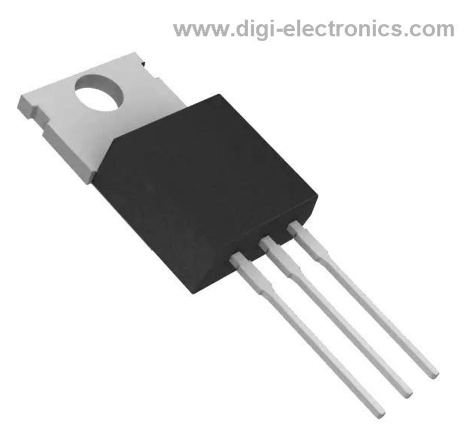
2SD1830 Datasheet



DiGi Electronics Part Number	2SD1830-DG
Manufacturer	onsemi
Manufacturer Product Number	2SD1830
Description	POWER BIPOLAR TRANSISTOR, 8A, 10
Detailed Description	Bipolar (BJT) Transistor NPN 100 V 8 A 20MHz 2 W Through Hole TO-220ML

https://www.DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	2SD1830	Manufacturer:	onsemi
Series:	-	Product Status:	Active
Transistor Type:	NPN	Current - Collector (Ic) (Max):	8 A
Voltage - Collector Emitter Breakdown (Max):	100 V	Vce Saturation (Max) @ Ib, Ic:	1.5V @ 8mA, 4A
Current - Collector Cutoff (Max):	100µA (ICBO)	DC Current Gain (hFE) (Min) @ Ic, Vce:	1500 @ 4A, 3V
Power - Max:	2 W	Frequency - Transition:	20MHz
Operating Temperature:	150°C (TJ)	Grade:	-
Qualification:	-	Mounting Type:	Through Hole
Package / Case:	TO-220-3 Full Pack	Supplier Device Package:	TO-220ML

Environmental & Export classification

Moisture Sensitivity Level (MSL):	Vendor Undefined	REACH Status:	Vendor Undefined

Ordering number : EN2214C

SANYO Semiconductors

DATA SHEET

2SB1228 / 2SD1830

PNP / NPN Epitaxial Planar Silicon Darlington Transistors

Driver Applications

Applications

- Suitable for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.

Features

- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.
- Micaless package facilitating mounting.

Specifications ( ) : 2SB1228

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)110	V
Collector-to-Emitter Voltage	V_{CEO}		(–)100	V
Emitter-to-Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)8	A
Collector Current (Pulse)	I_{CP}		(–)12	A
Collector Dissipation	P_C		2.0	W
		Tc=25°C	30	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)80V, I_E=0A			(–)0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)5V, I_C=0A			(–)3.0	mA
DC Current Gain	h_{FE}	V_{CE}=(–)3V, I_C=(–)4A	1500	4000		
Gain-Bandwidth Product	f_T	V_{CE}=(–)5V, I_C=(–)4A		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE}(sat)$	I_C=(–)4A, I_B=(–)8mA		(–1.0)0.9	(–)1.5	V
Base-to-Emitterr Saturation Voltage	$V_{BE}(sat)$	I_C=(–)4A, I_B=(–)8mA			(–)2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)5mA, I_E=0A	(–)110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)50mA, R_{BE}=∞	(–)100			V

Continued on next page.

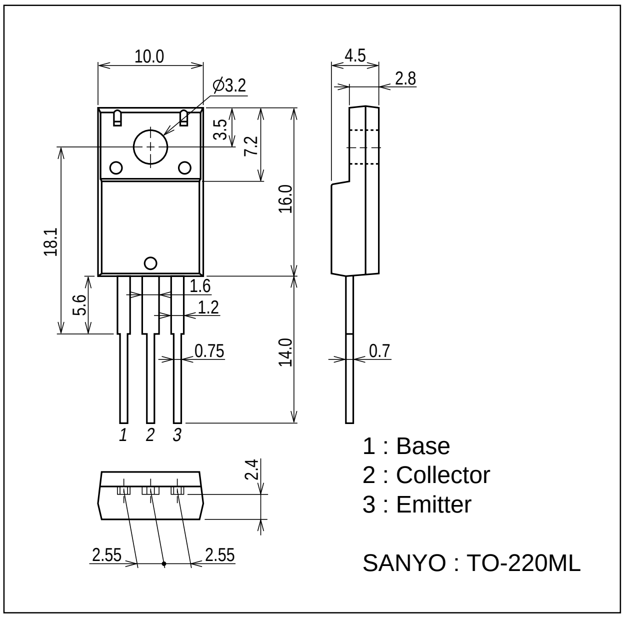
SANYO Semiconductor Co., Ltd.
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

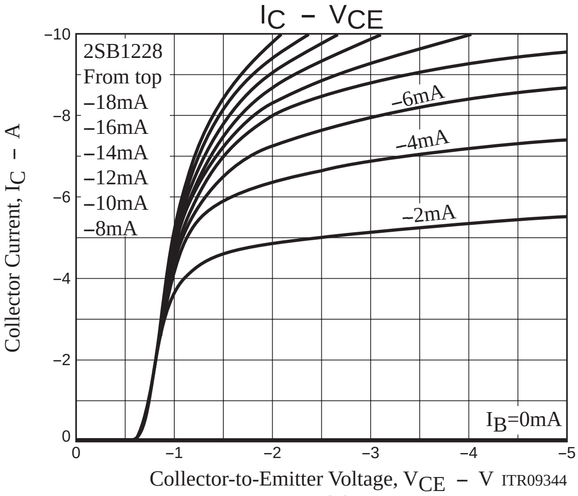
Continued from preceding page.

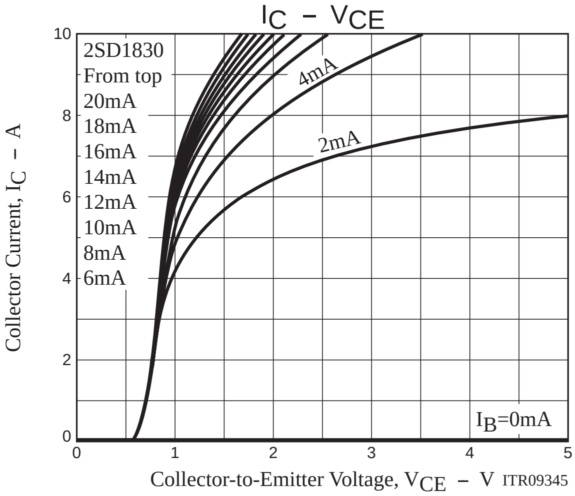
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Time	t_{on}	See specified Test Circuit.		(0.7)0.6		µs
Storage Time	t_{stg}	See specified Test Circuit.		(1.4)4.8		µs
Fall Time	t_f	See specified Test Circuit.		(1.5)1.6		µs

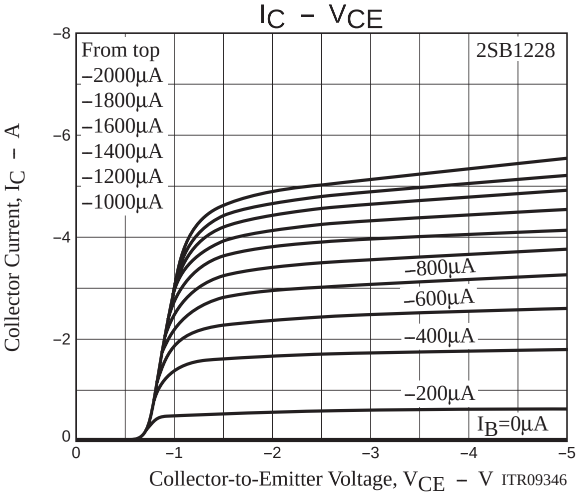
Package Dimensions

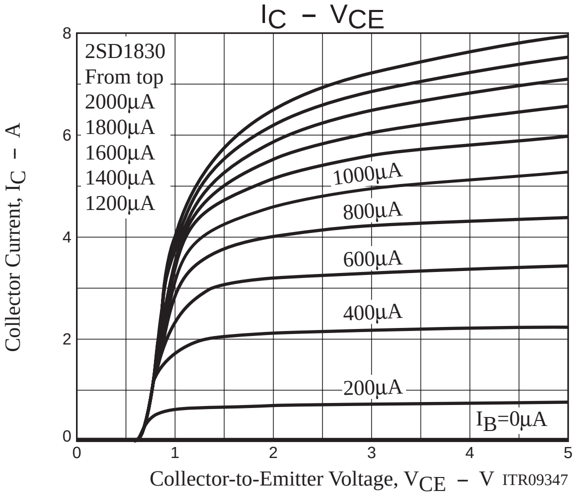
unit : mm (typ)
7508-002



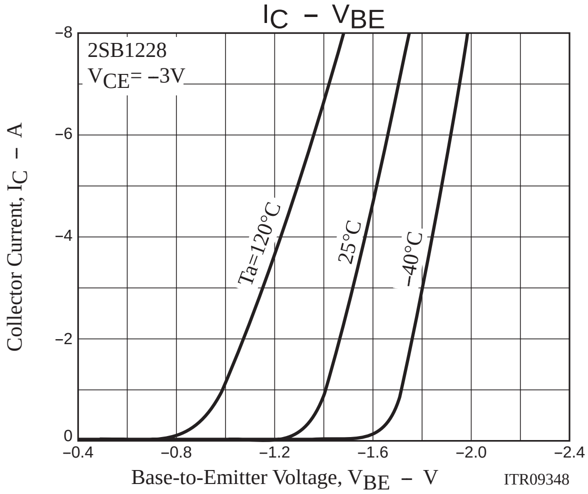




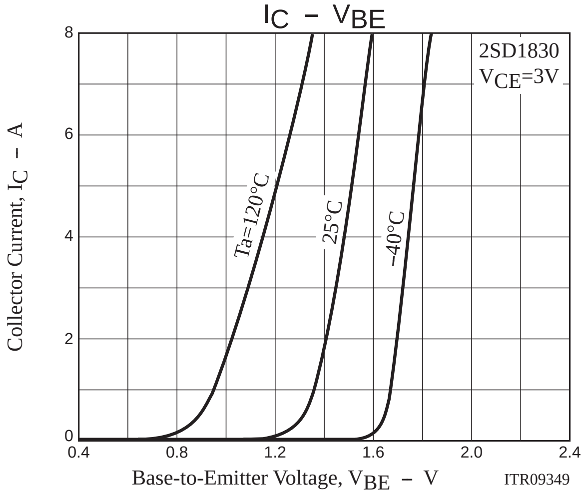




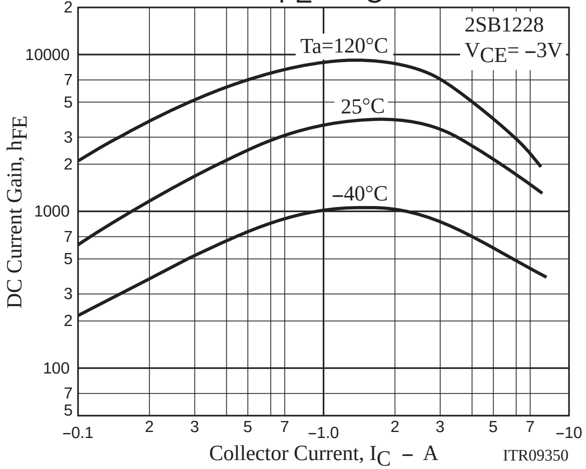
I_C – V_{BE}



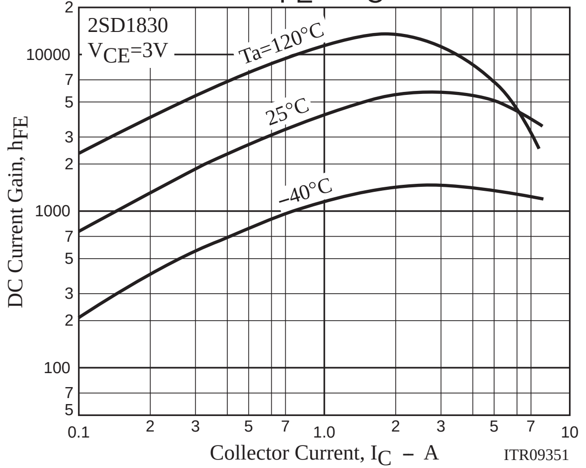
I_C – V_{BE}



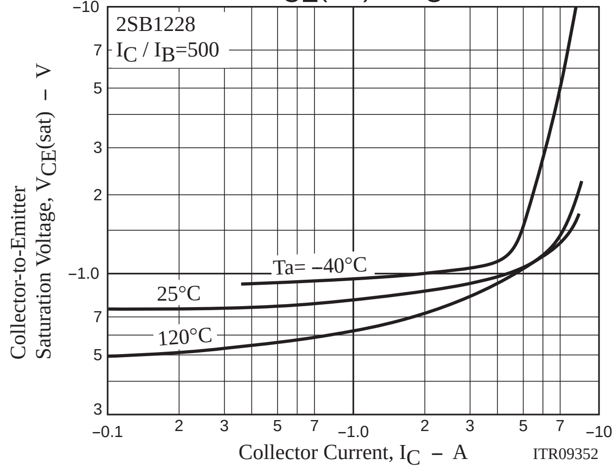
h_{FE} – I_C



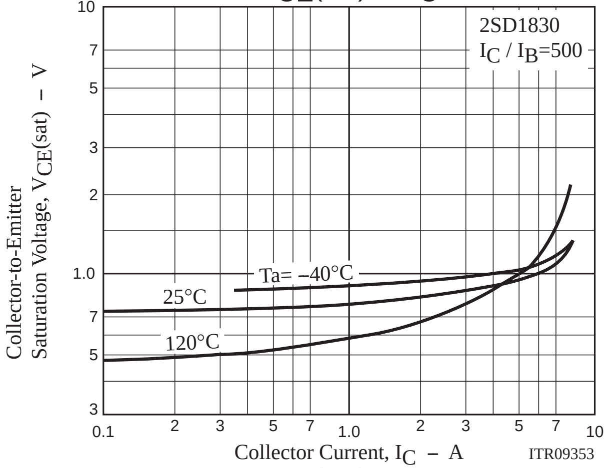
h_{FE} – I_C



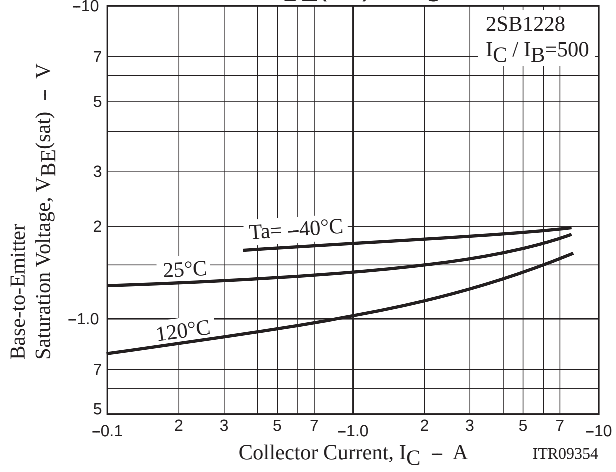
V_{CE}(sat) – I_C



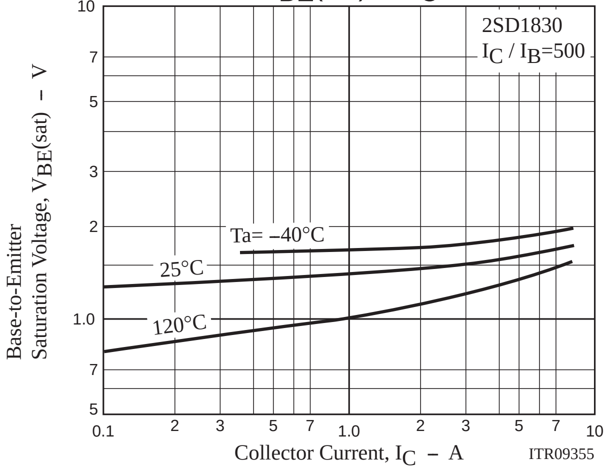
V_{CE}(sat) – I_C

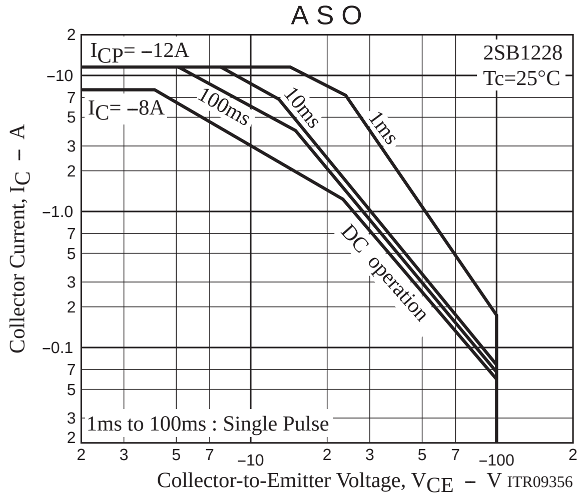


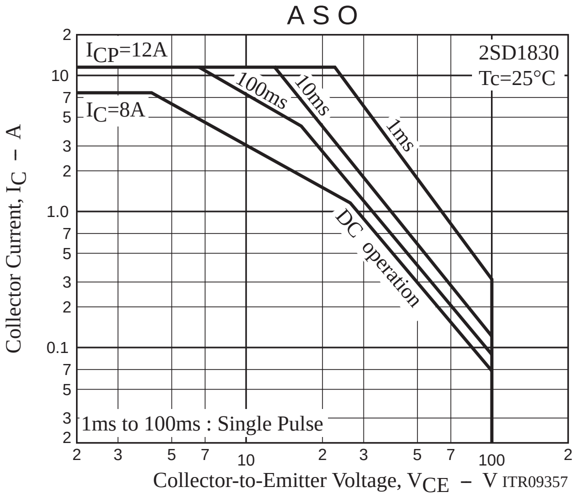
V_{BE}(sat) – I_C

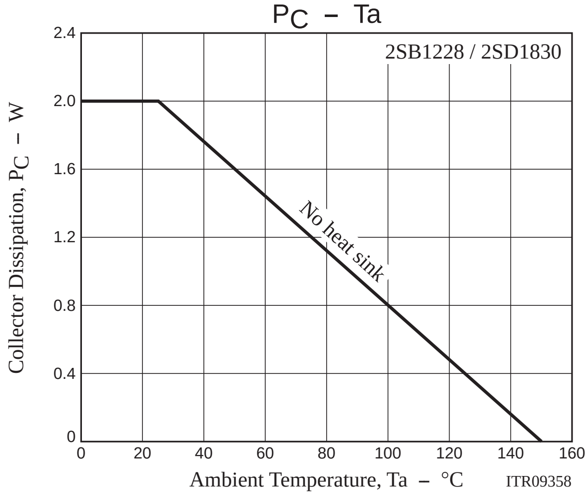


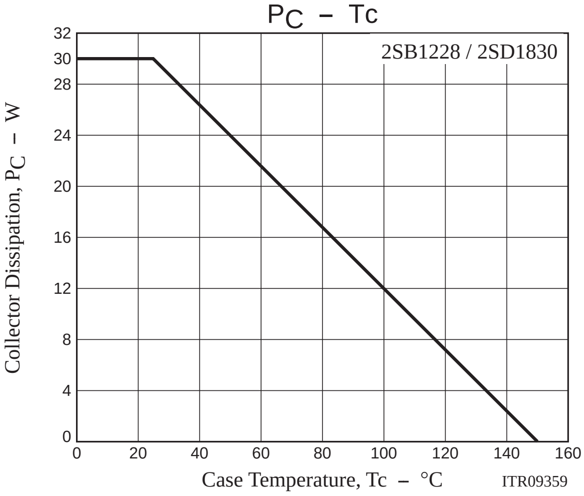
V_{BE}(sat) – I_C




A S O
I_{CP}= –12A
I_C= –8A
2SB1228
Tc=25°C
100ms
10ms
1ms
DC operation
1ms to 100ms : Single Pulse
Collector Current, I_C – A
2
–10
7
5
3
2
–1.0
7
5
3
2
–0.1
7
5
3
2
Collector-to-Emitter Voltage, V_{CE} – V
2
3
5
7
–10
2
3
5
7
–100
2
ITR09356


A S O
I_{CP}=12A
I_C=8A
2SD1830
Tc=25°C
100ms
10ms
1ms
DC operation
1ms to 100ms : Single Pulse
Collector Current, I_C – A
2
10
7
5
3
2
1.0
7
5
3
2
0.1
7
5
3
2
Collector-to-Emitter Voltage, V_{CE} – V
2
3
5
7
10
2
3
5
7
100
2
ITR09357


P_C – Ta
2SB1228 / 2SD1830
No heat sink
Collector Dissipation, P_C – W
2.4
2.0
1.6
1.2
0.8
0.4
0
0
20
40
60
80
100
120
140
160
Ambient Temperature, Ta – °C
ITR09358


P_C – Tc
2SB1228 / 2SD1830
Collector Dissipation, P_C – W
32
30
28
24
20
16
12
8
4
0
0
20
40
60
80
100
120
140
160
Case Temperature, Tc – °C
ITR09359

OUR CERTIFICATE

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DCI.

QUALITY MANAGEMENT SYSTEM CERTIFICATE

DIGI ELECTRONICS HK LIMITED

GB/T 19001-2016 idt ISO9001:2015

DCI Certification Ltd

DCI.

ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE

DIGI ELECTRONICS HK LIMITED

GB/T 24001-2016 idt ISO14001:2015

DCI Certification Ltd

DCI.

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM CERTIFICATE

DIGI ELECTRONICS HK LIMITED

GB/T45001-2020 idt ISO45001:2018

DCI Certification Ltd

CR

CERTIFICATE OF INCORPORATION

I hereby certify that

DIGI ELECTRONICS HK LIMITED

is this day incorporated in Hong Kong under the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), and that this company is a limited company.

Registrar of Companies
Hong Kong Special Administrative Region

ASA

MEMBERSHIP
Certificate

The Aviation Suppliers Association has enrolled as a Regular Member

DIGI ELECTRONICS HK LIMITED

Michele Dickstein
President

dun & bradstreet

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