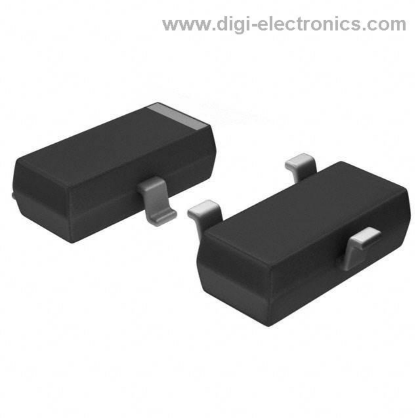
2SD13280TL Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	2SD13280TL-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	2SD13280TL
Description	TRANS NPN 20V 0.5A MINI3
Detailed Description	Bipolar (BJT) Transistor NPN 20 V 500 mA 200MHz 200 mW Surface Mount Mini3-G1

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SD13280TL	Panasonic Electronic Components
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	500 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
20 V	400mV @ 20mA, 500mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	400 @ 500mA, 2V
Power - Max:	Frequency - Transition:
200 mW	200MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-236-3, SC-59, SOT-23-3	Mini3-G1
Base Product Number:	
2SD1328	

Environmental & Export classification

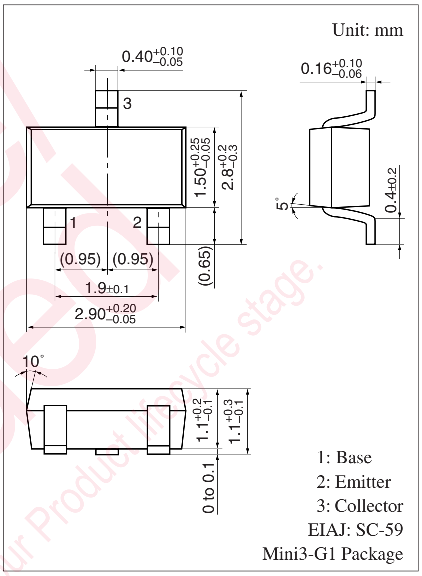
Moisture Sensitivity Level (MSL):	ECCN:
1 (Unlimited)	EAR99
HTSUS:	
8541.21.0075	

This product complies with the RoHS Directive (EU 2002/95/EC).

2SD1328

Silicon NPN epitaxial planar type

For low-voltage output amplification
For muting
For DC-DC converter



Marking Symbol: 1D

Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Low ON resistance R_{on}
- High foward current transfer ratio h_{FE}

Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	25	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	12	V
Collector current	I_C	0.5	A
Peak collector current	I_{CP}	1	A
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	25			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1$ mA, $I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	12			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 25$ V, $I_E = 0$			100	nA
Forward current transfer ratio *1,2	h_{FE}	$V_{CE} = 2$ V, $I_C = 0.5$ A	200		800	—
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 0.5$ A, $I_B = 20$ mA		0.13	0.40	V
Base-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 0.5$ A, $I_B = 50$ mA			1.2	V
Transition frequency	f_T	$V_{CB} = 10$ V, $I_E = -50$ mA, f = 200 MHz		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, f = 1 MHz		10		pF
ON resistance *3	R_{ON}			1.0		Ω

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

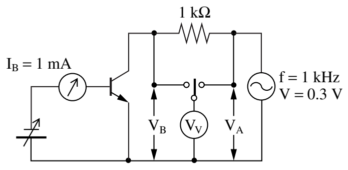
2. ∗1: Pulse measurement

∗2: Rank classification

Rank	R	S	T	No-rank
h_{FE}	200 to 350	300 to 500	400 to 800	200 to 800
Marking symbol	1DR	1DS	1DT	1D

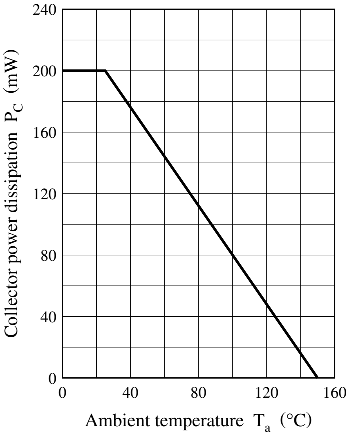
Product of no-rank is not classified and have no marking symbol for rank.

∗3: R_{on} Measuremet circuit

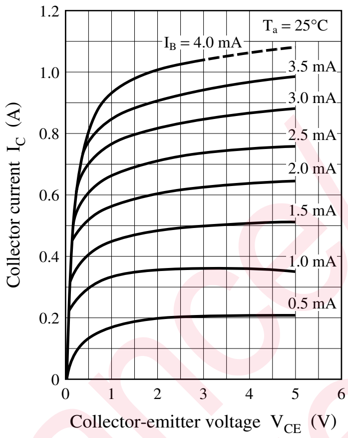


$$R_{on} = \frac{V_B}{V_A - V_B} \times 1\,000\ (\Omega)$$

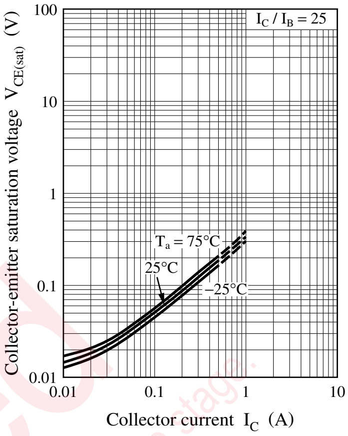
P_C — T_a



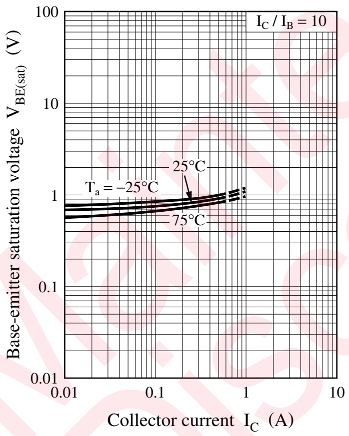
I_C — V_{CE}



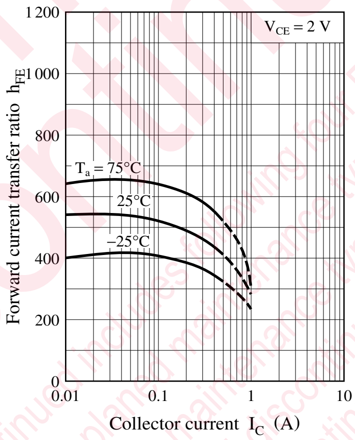
$V_{CE(sat)}$ — I_C



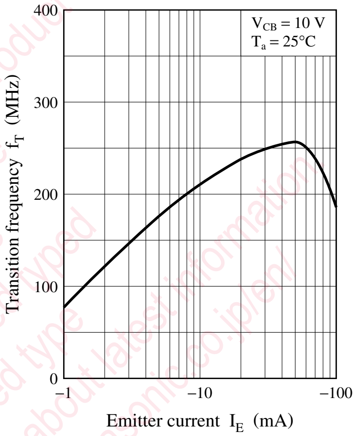
$V_{BE(sat)}$ — I_C



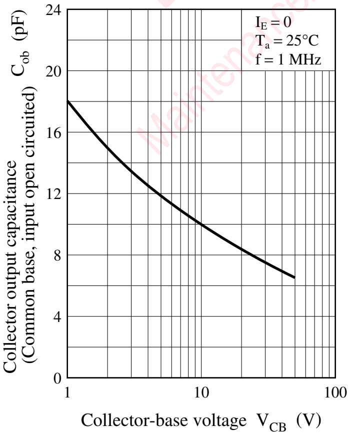
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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COMPANIES REGISTRY

公司註冊證明書

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.

Issued on 23 January 2019.

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DIGI ELECTRONICS HK LIMITED

Michele Dickstein

President

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