DSC750500L Datasheet

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DiGi Electronics Part Number	DSC750500L-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	DSC750500L
Description	TRANS NPN 20V 3A MINIP3
Detailed Description	Bipolar (BJT) Transistor NPN 20 V 3 A 200MHz 1 W Surface Mount MiniP3-F2-B

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
DSC750500L	Panasonic Electronic Components
Series:	Product Status:
-	Discontinued at Digi-Key
Transistor Type:	Current - Collector (Ic) (Max):
NPN	3 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
20 V	1V @ 100mA, 3A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	230 @ 500mA, 2V
Power - Max:	Frequency - Transition:
1 W	200MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-243AA	MiniP3-F2-B
Base Product Number:	
DSC7505	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
RoHS Compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8541.29.0075

DSC7505

Silicon NPN epitaxial planar type

For low frequency amplification

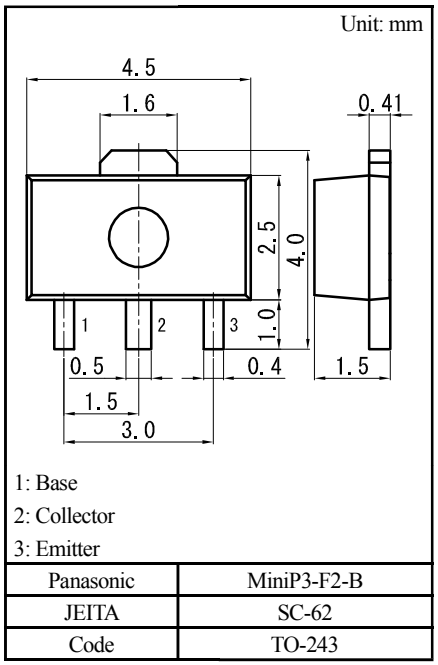
■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: 5G

■ Packaging

DSC7505×0L Embossed type (Thermo-compression sealing): 1 000 pcs / reel (standard)



Panasonic	MiniP3-F2-B
JEITA	SC-62
Code	TO-243

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	40	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_C	3	A
Peak collector current	I_{CP}	5	A
Collector power dissipation *1	P_C	1	W
Junction temperature	T_j	150	°C
Operating ambient temperature	T_{opr}	–40 to +85	°C
Storage temperature	T_{stg}	–55 to +150	°C

Note) *1: Printed circuit board: Copper foil area of 1 cm^2 or more, and the board thickness of 1.7 mm for the collector portion
Absolute maximum rating without heat sink for P_C is 0.5 W

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

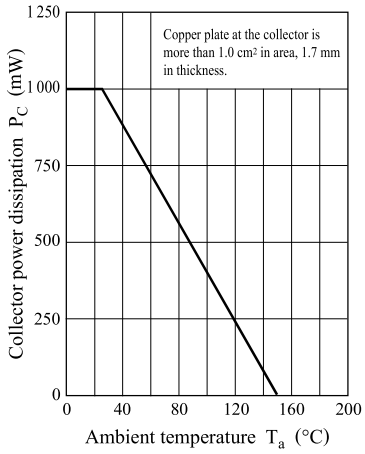
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 1 mA, I_B = 0	20			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 μA, I_C = 0	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 10 V, I_E = 0			0.1	μA
Forward current transfer ratio *1	h_{FE1} *2	V_{CE} = 2 V, I_C = 0.5 A	230		600	—
	h_{FE2}	V_{CE} = 2 V, I_C = 2 A	150			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	I_C = 3 A, I_B = 0.1 A			1.0	V
Transition frequency *1	f_T	V_{CE} = 6 V, I_C = 50 mA		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 20 V, I_E = 0, f = 1 MHz			50	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *1: Pulse measurement
*2: Rank classification

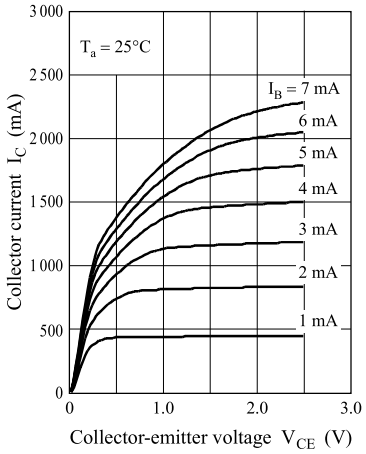
Code	Q	R	0
Rank	Q	R	No-rank
h_{FE1}	230 to 380	340 to 600	230 to 600
Marking Symbol	5GQ	5GR	5G

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

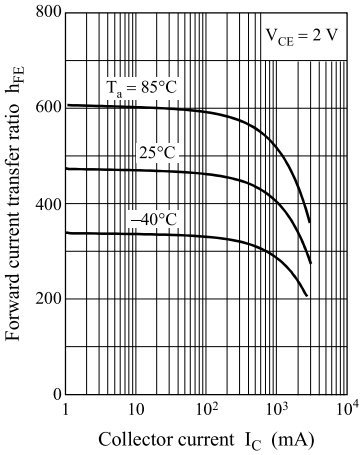
P_C — T_a



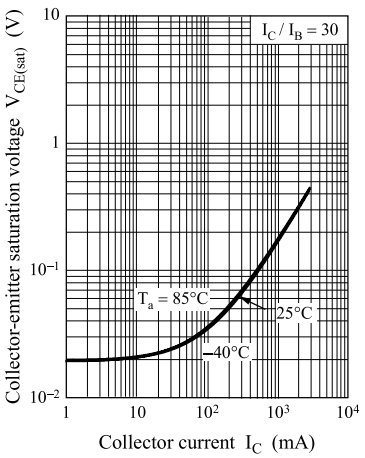
I_C — V_{CE}



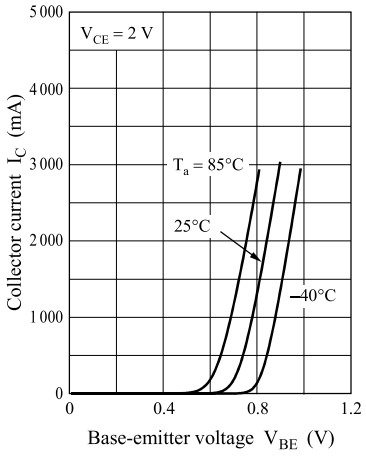
h_{FE} — I_C



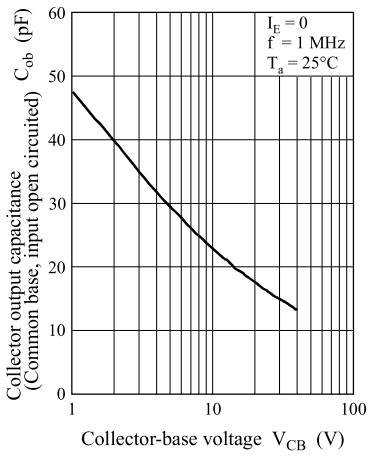
$V_{CE(sat)}$ — I_C



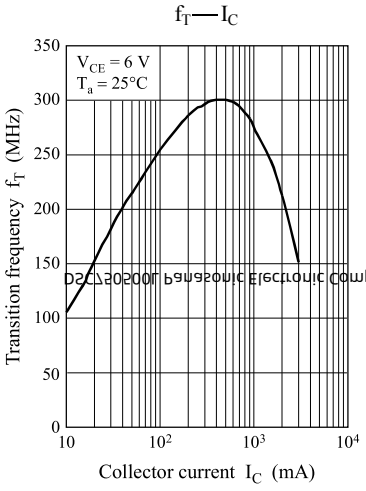
I_C — V_{BE}



C_{ob} — V_{CB}

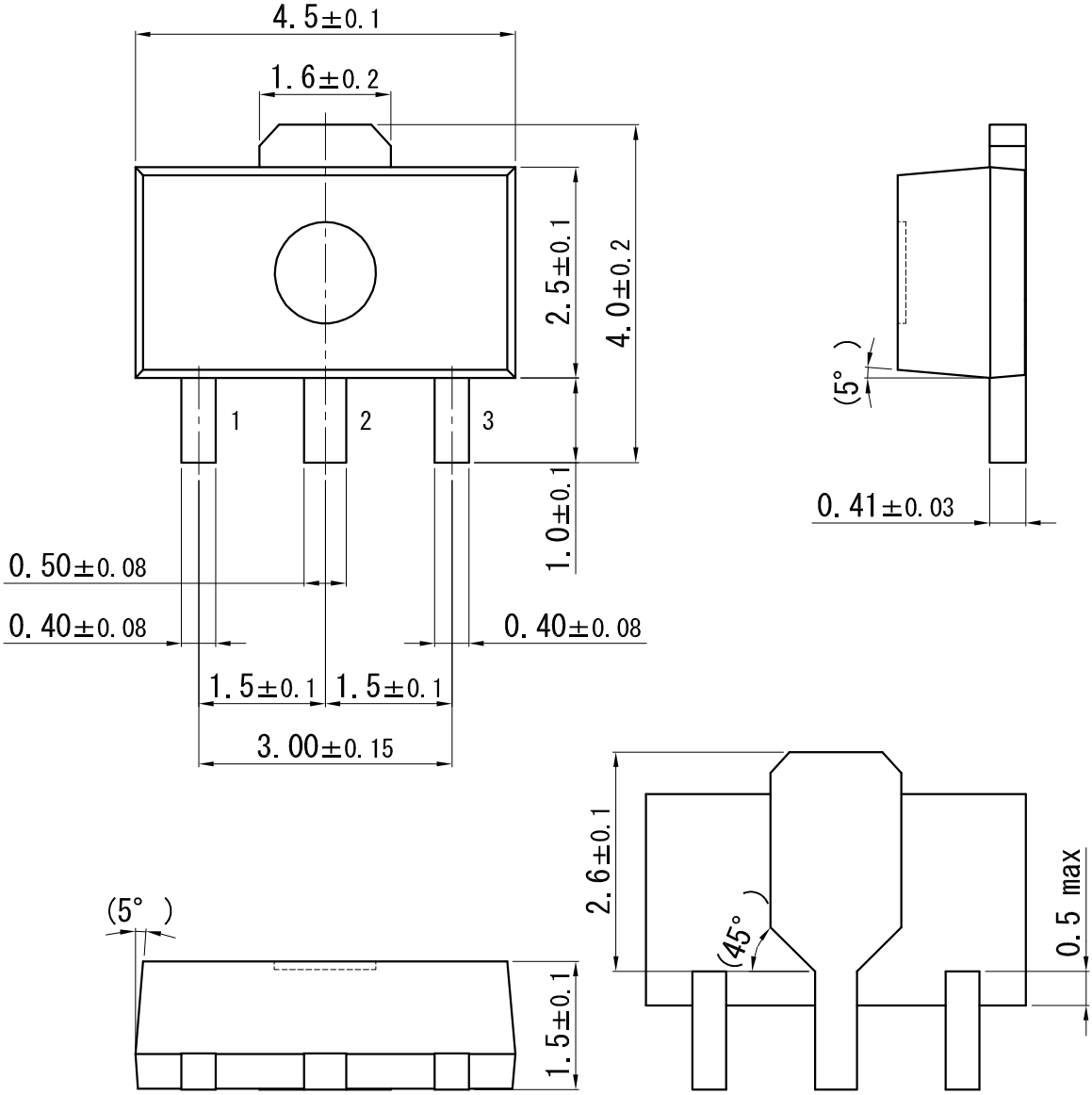


f_T — I_C

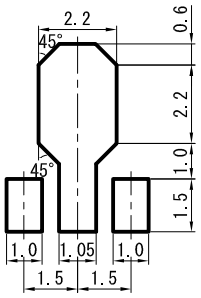


MiniP3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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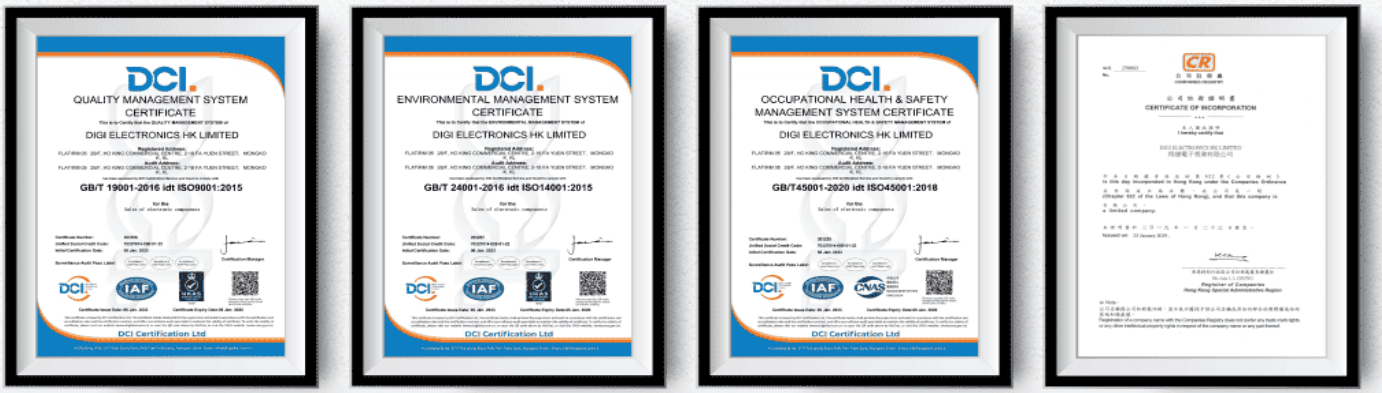

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