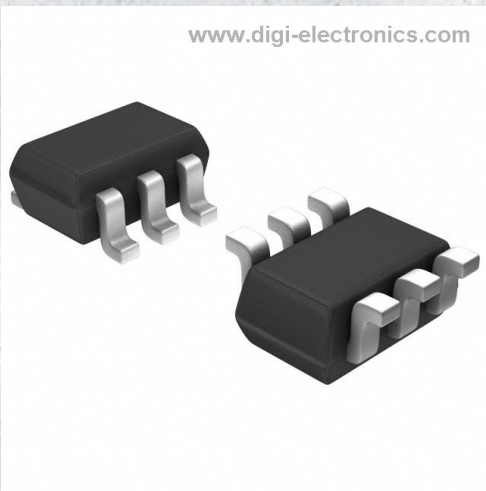
BCR10PNH6730XTMA1 Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	BCR10PNH6730XTMA1-DG
Manufacturer	Infineon Technologies
Manufacturer Product Number	BCR10PNH6730XTMA1
Description	TRANS NPN/PNP PREBIAS SOT363
Detailed Description	Pre-Biased Bipolar Transistor (BJT) 1 NPN, 1 PNP - Pre-Biased (Dual) 50V 100mA 130MHz 250mW Surface Mount PG-SOT363-PO

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

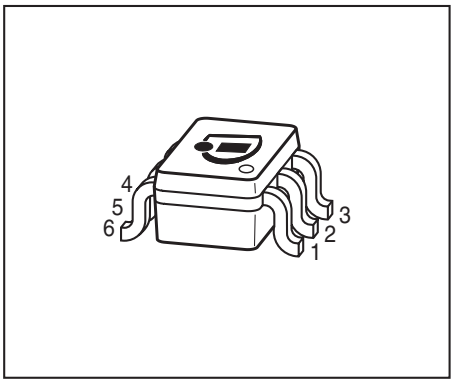
Manufacturer Product Number:	Manufacturer:
BCR10PNH6730XTMA1	Infineon Technologies
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
1 NPN, 1 PNP - Pre-Biased (Dual)	100mA
Voltage - Collector Emitter Breakdown (Max):	Resistor - Base (R1):
50V	10kOhms
Resistor - Emitter Base (R2):	DC Current Gain (hFE) (Min) @ Ic, Vce:
10kOhms	30 @ 5mA, 5V
Vce Saturation (Max) @ Ib, Ic:	Current - Collector Cutoff (Max):
300mV @ 500µA, 10mA	-
Frequency - Transition:	Power - Max:
130MHz	250mW
Mounting Type:	Package / Case:
Surface Mount	6-VSSOP, SC-88, SOT-363
Supplier Device Package:	Base Product Number:
PG-SOT363-PO	BCR10

Environmental & Export classification

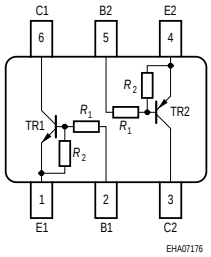
RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	

BCR10PN

NPN/PNP Silicon Digital Transistor Array



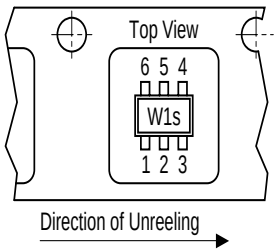
- Switching circuit, inverter, interface circuit, driver circuit
- Two (galvanic) internal isolated NPN/PNP Transistors in one package
- Built in bias resistor NPN and PNP (R_1=10 kΩ, R_2 =10 kΩ)
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



AEC Qualified

RoHS

Tape loading orientation



Marking on SOT-363 package (for example W1s) corresponds to pin 1 of device

Position in tape: pin 1 opposite of feed hole side

EHA07193

Type	Marking	Pin Configuration						Package
BCR10PN	W1s	1=E1	2=B1	3=C2	4=E2	5=B2	6=C1	SOT363

Maximum Ratings for NPN and PNP Types

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Input forward voltage	$V_{i(fwd)}$	40	
Input reverse voltage	$V_{i(rev)}$	10	
DC collector current	I_C	100	mA
Total power dissipation, T_S = 115 °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	
Thermal Resistance			
Junction - soldering point[1)]	R_{thJS}	≤ 140	K/W

[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

Electrical Characteristics at T_A=25°C, unless otherwise specified

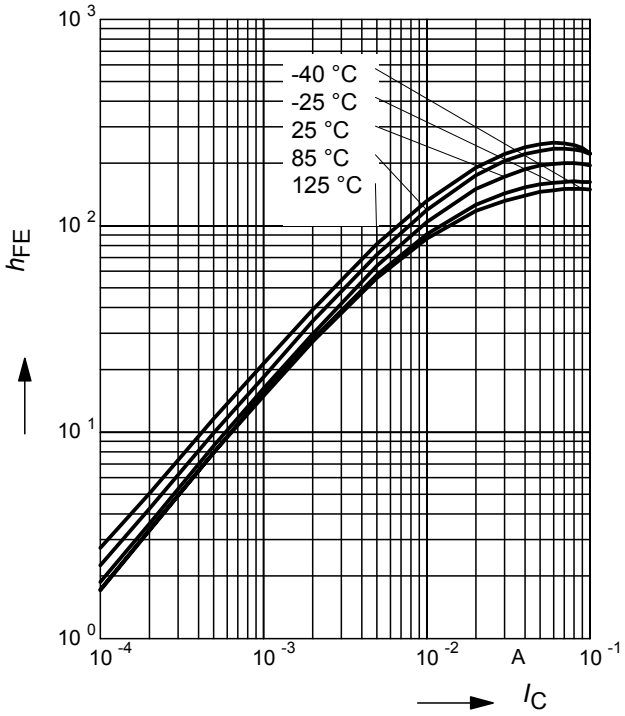
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics for NPN and PNP Types					
Collector-emitter breakdown voltage I_C = 100 µA, I_B = 0	$V_{(BR)CEO}$	50	-	-	V
Collector-base breakdown voltage I_C = 10 µA, I_E = 0	$V_{(BR)CBO}$	50	-	-	
Collector cutoff current V_{CB} = 40 V, I_E = 0	I_{CBO}	-	-	100	nA
Emitter cutoff current V_{EB} = 10 V, I_C = 0	I_{EBO}	-	-	0.75	mA
DC current gain 1) I_C = 5 mA, V_{CE} = 5 V	h_{FE}	30	-	-	-
Collector-emitter saturation voltage1) I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	-	-	0.3	V
Input off voltage I_C = 100 µA, V_{CE} = 5 V	$V_{i(off)}$	0.8	-	1.5	
Input on Voltage I_C = 2 mA, V_{CE} = 0.3 V	$V_{i(on)}$	1	-	2.5	
Input resistor	R_1	7	10	13	kΩ
Resistor ratio	R_1/R_2	0.9	1	1.1	-
AC Characteristics for NPN and PNP Types					
Transition frequency I_C = 10 mA, V_{CE} = 5 V, f = 100 MHz	f_T	-	130	-	MHz
Collector-base capacitance V_{CB} = 10 V, f = 1 MHz	C_{cb}	-	3	-	pF

1) Pulse test: t < 300µs; D < 2%

NPN Type

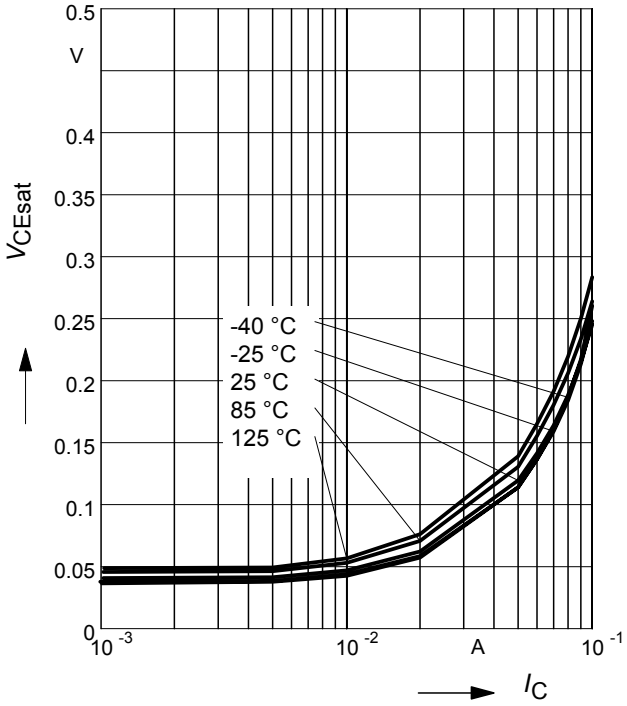
DC Current Gain $h_{FE} = f(I_C)$

V_{CE} = 5V (common emitter configuration)



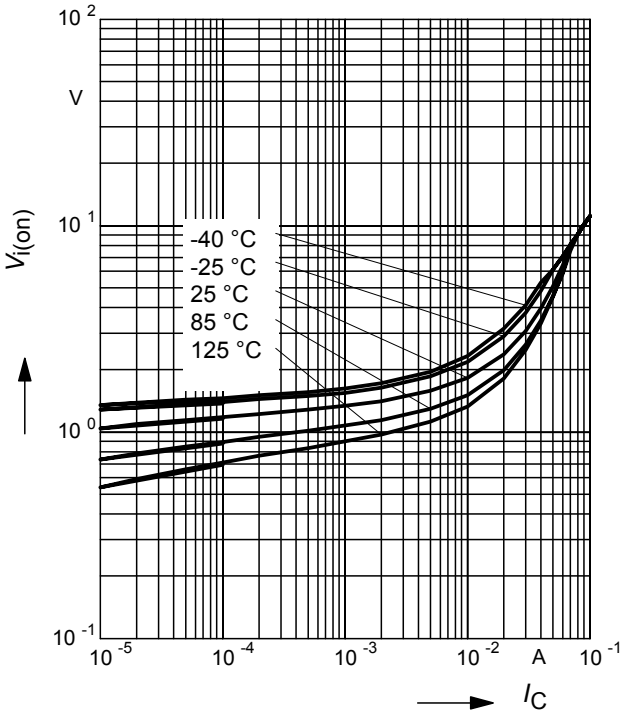
Collector-Emitter Saturation Voltage

$V_{CEsat} = f(I_C)$, h_{FE} = 20



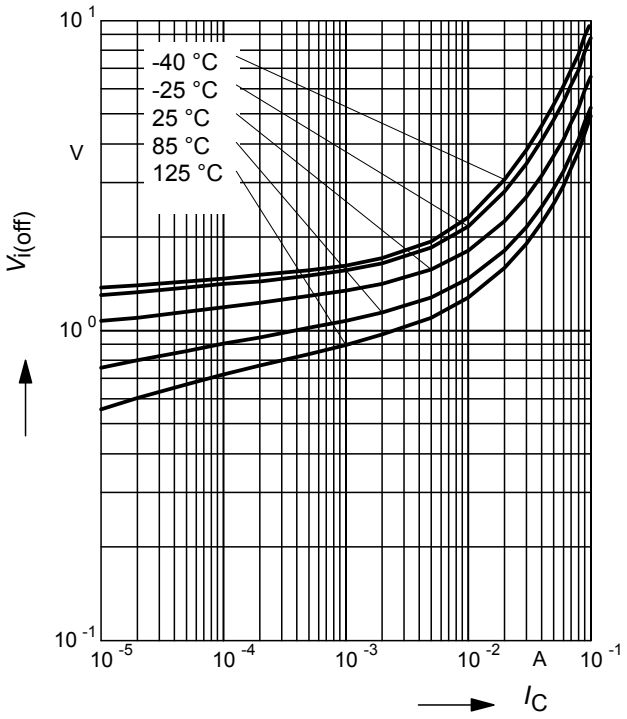
Input on Voltage $V_{i(on)} = f(I_C)$

V_{CE} = 0.3V (common emitter configuration)



Input off voltage $V_{i(off)} = f(I_C)$

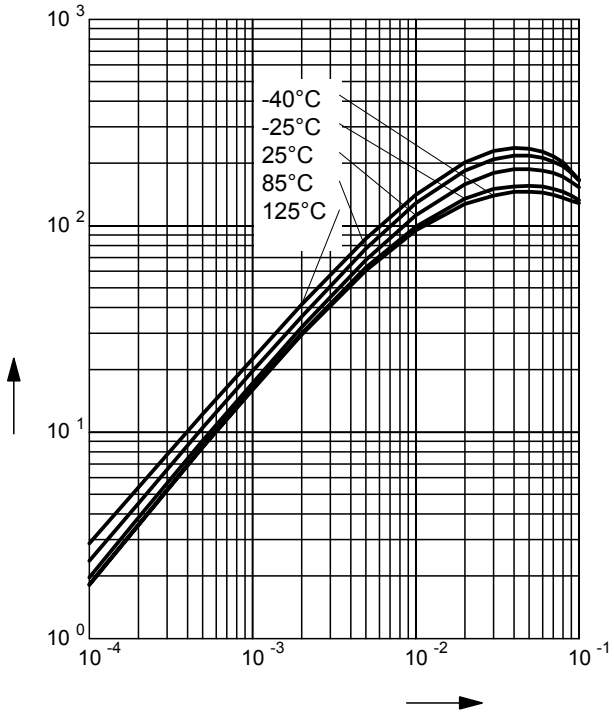
V_{CE} = 5V (common emitter configuration)



PNP Type

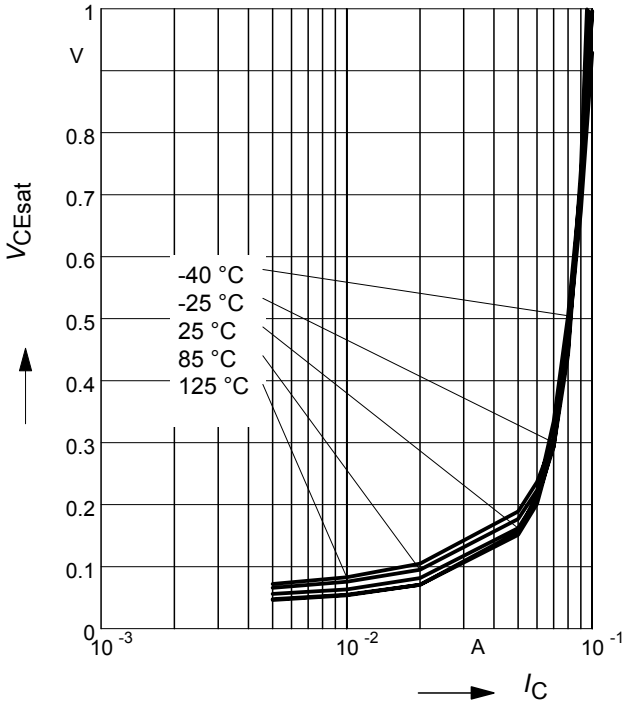
DC Current Gain $h_{FE} = f(I_C)$

V_{CE} = 5V (common emitter configuration)



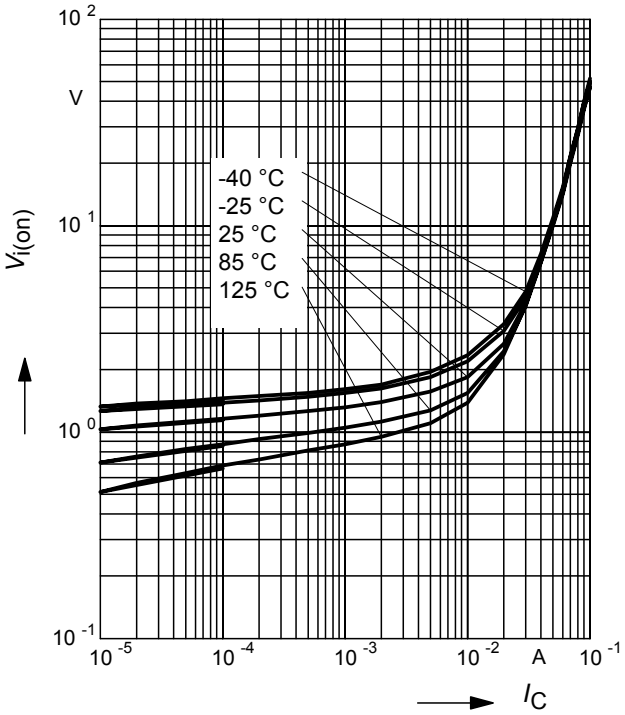
Collector-Emitter Saturation Voltage

$V_{CEsat} = f(I_C)$, h_{FE} = 20



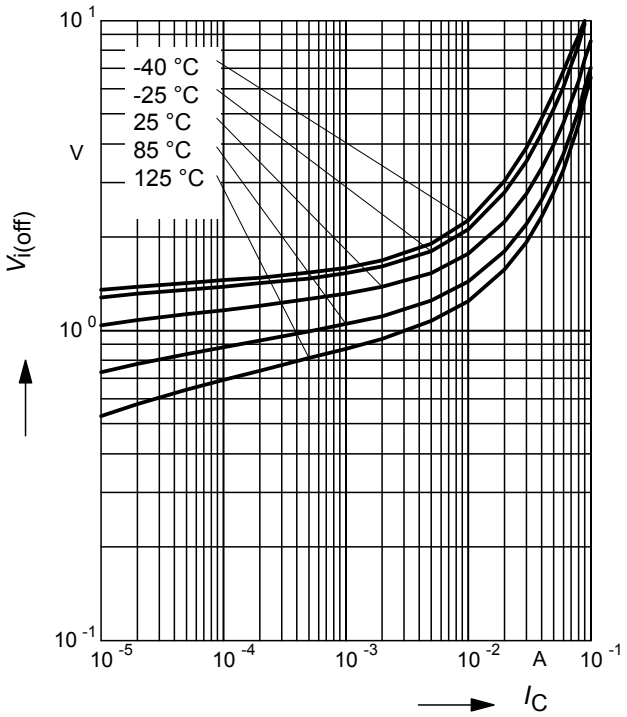
Input on Voltage $V_{i(on)} = f(I_C)$

V_{CE} = 0.3V (common emitter configuration)

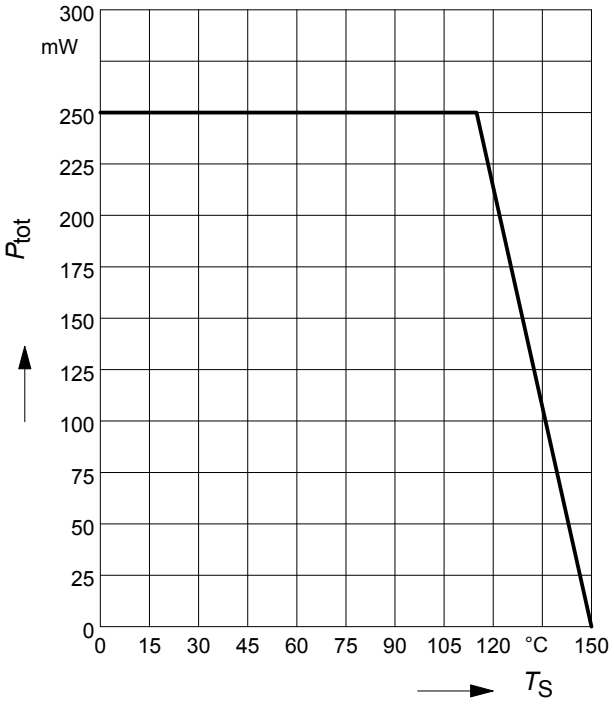


Input off voltage $V_{i(off)} = f(I_C)$

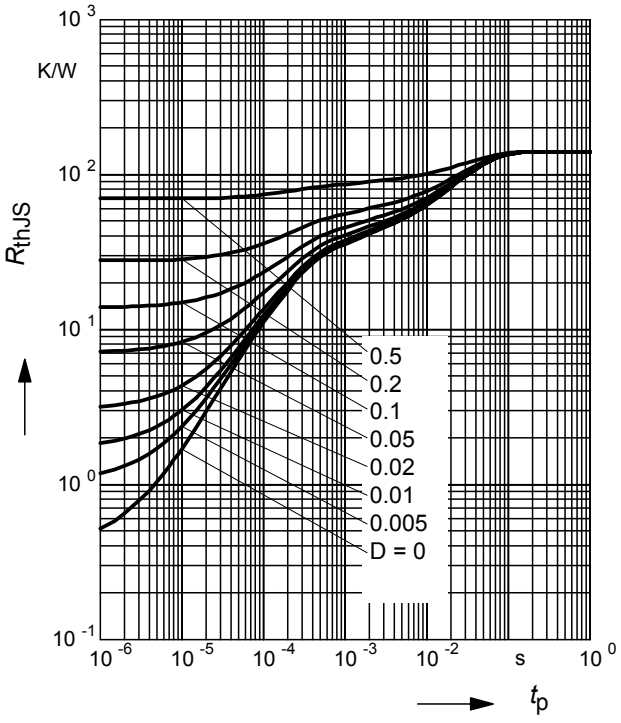
V_{CE} = 5V (common emitter configuration)



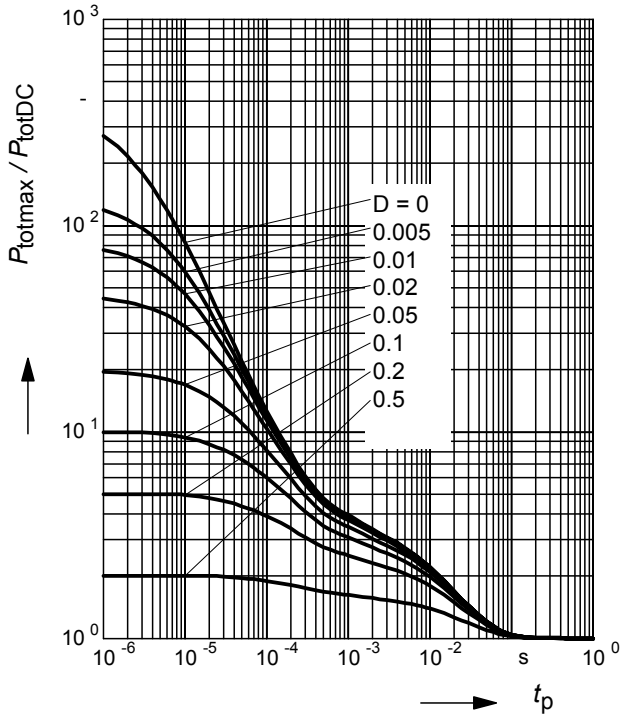
Total power dissipation $P_{tot} = f(T_S)$



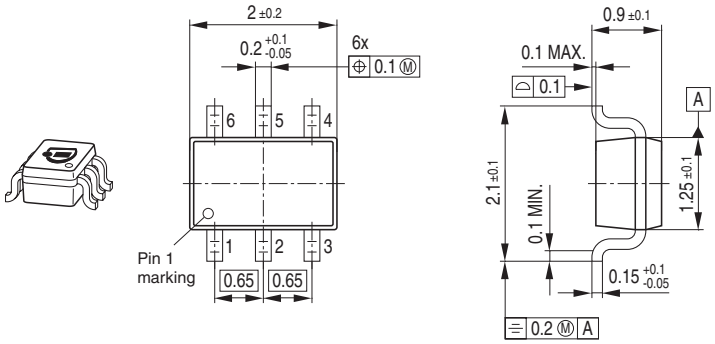
Permissible Pulse Load $R_{thJS} = f(t_p)$



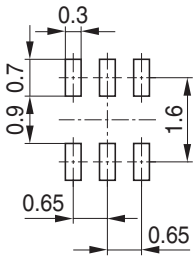
Permissible Pulse Load $P_{totmax} / P_{totDC} = f(t_p)$



Package Outline

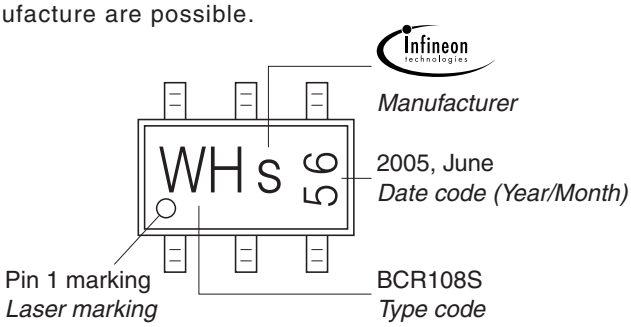


Foot Print



Marking Layout (Example)

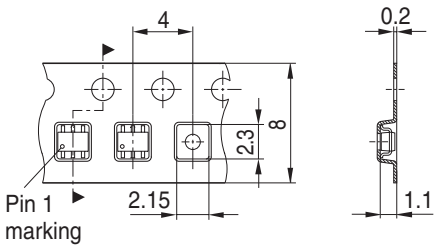
Small variations in positioning of
Date code, Type code and Manufacture are possible.



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



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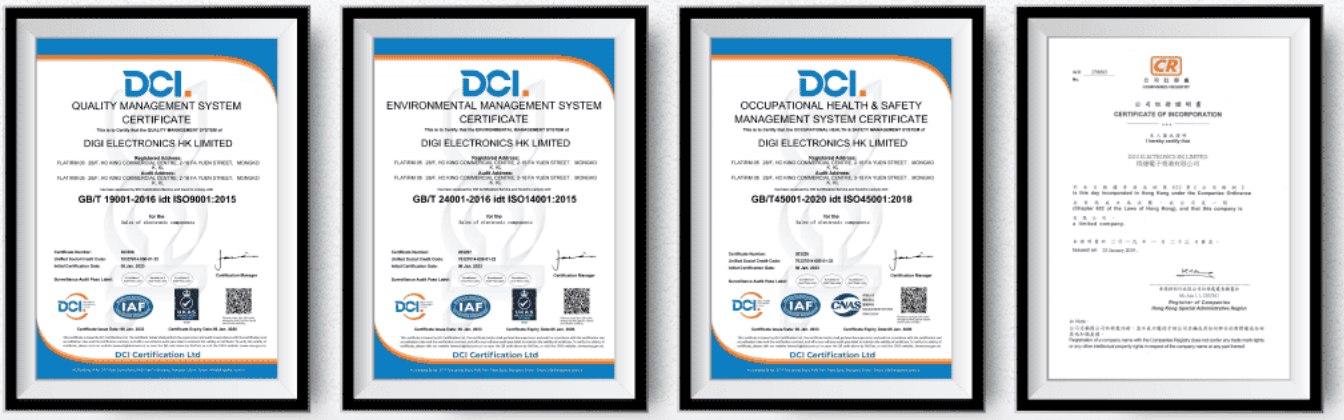

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