

BCR 164T E6327 Datasheet



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DiGi Electronics Part Number	BCR 164T E6327-DG
Manufacturer	Infineon Technologies
Manufacturer Product Number	BCR 164T E6327
Description	TRANS PREBIAS PNP 50V 0.1A SC75
Detailed Description	Pre-Biased Bipolar Transistor (BJT) PNP - Pre-Biased 50 V 100 mA 160 MHz 250 mW Surface Mount PG-SC75-3D



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Purchase and inquiry

Manufacturer Product Number:

BCR 164T E6327

Series:

-

Transistor Type:

PNP - Pre-Biased

Voltage - Collector Emitter Breakdown (Max):

50 V

Resistor - Emitter Base (R2):

10 kOhms

Vce Saturation (Max) @ Ib, Ic:

300mV @ 500µA, 10mA

Frequency - Transition:

160 MHz

Mounting Type:

Surface Mount

Supplier Device Package:

PG-SC75-3D

Manufacturer:

Infineon Technologies

Product Status:

Discontinued at Digi-Key

Current - Collector (Ic) (Max):

100 mA

Resistor - Base (R1):

4.7 kOhms

DC Current Gain (hFE) (Min) @ Ic, Vce:

30 @ 5mA, 5V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

250 mW

Package / Case:

SC-75, SOT-416

Base Product Number:

BCR 164

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

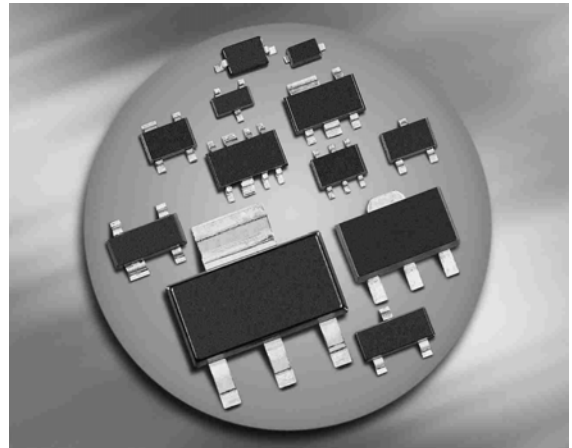
1 (Unlimited)

ECCN:

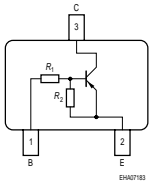
EAR99

PNP Silicon Digital Transistor

- Switching circuit, inverter, interface circuit, driver circuit
- Built in bias resistor ($R_1 = 4.7k\Omega$, $R_2 = 10k\Omega$)



BCR164F/L3 BCR164T



Type	Marking	Pin Configuration						Package
		1=B	2=E	3=C	-	-	-	
BCR164F*	U6s	1=B	2=E	3=C	-	-	-	TSFP-3
BCR164L3*	U6	1=B	2=E	3=C	-	-	-	TSLP-3-4
BCR164T*	U6s	1=B	2=E	3=C	-	-	-	SC75

* Preliminary

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Emitter-base voltage	V_{EBO}	5	
Input on voltage	$V_{i(on)}$	15	
Collector current	I_C	100	mA
Total power dissipation- BCR164F, $T_S \leq 128^\circ\text{C}$ BCR164L3, $T_S \leq 135^\circ\text{C}$ BCR164T, $T_S \leq 109^\circ\text{C}$	P_{tot}	250 250 250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	



Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		-
BCR164F		≤ 90	
BCR164L3		≤ 60	
BCR164T		≤ 165	

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Collector-emitter breakdown voltage $I_C = 100 \mu\text{A}, I_B = 0$	$V_{(BR)CEO}$	50	-	-	V
Collector-base breakdown voltage $I_C = 10 \mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	50	-	-	
Collector-base cutoff current $V_{CB} = 40 \text{V}, I_E = 0$	I_{CBO}	-	-	100	nA
Emitter-base cutoff current $V_{EB} = 10 \text{V}, I_C = 0$	I_{EBO}	-	-	520	μA
DC current gain ²⁾ $I_C = 5 \text{mA}, V_{CE} = 5 \text{V}$	h_{FE}	30	-	-	-
Collector-emitter saturation voltage ²⁾ $I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$	V_{CEsat}	-	-	0.3	V
Input off voltage $I_C = 100 \mu\text{A}, V_{CE} = 5 \text{V}$	$V_{i(off)}$	0.5	-	1.1	
Input on voltage $I_C = 2 \text{mA}, V_{CE} = 0.3 \text{V}$	$V_{i(on)}$	0.5	-	1.4	
Input resistor	R_1	3.2	4.7	6.2	k Ω
Resistor ratio	R_1/R_2	0.42	0.47	0.52	-

AC Characteristics

Transition frequency $I_C = 10 \text{mA}, V_{CE} = 5 \text{V}, f = 100 \text{MHz}$	f_T	-	160	-	MHz
Collector-base capacitance $V_{CB} = 10 \text{V}, f = 1 \text{MHz}$	C_{cb}	-	3	-	pF

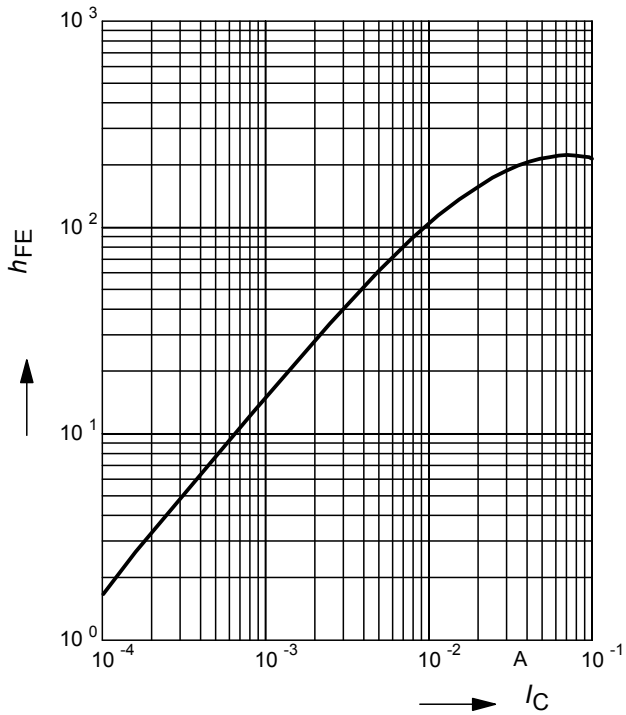
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

²⁾Pulse test: $t < 300 \mu\text{s}$; $D < 2\%$



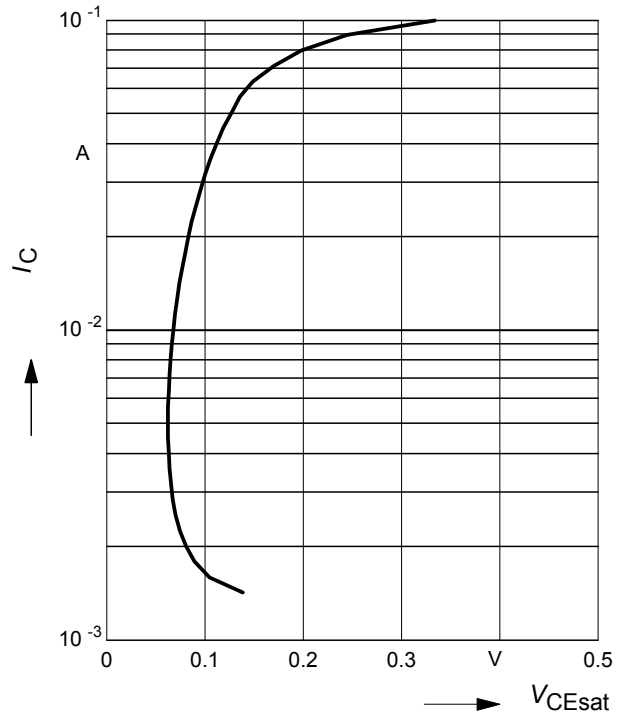
DC current gain $h_{FE} = f(I_C)$

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



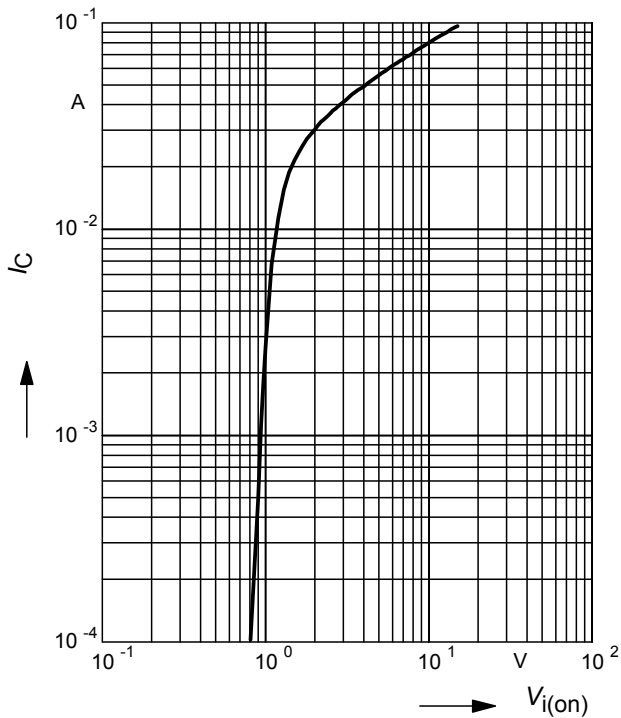
Collector-emitter saturation voltage

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



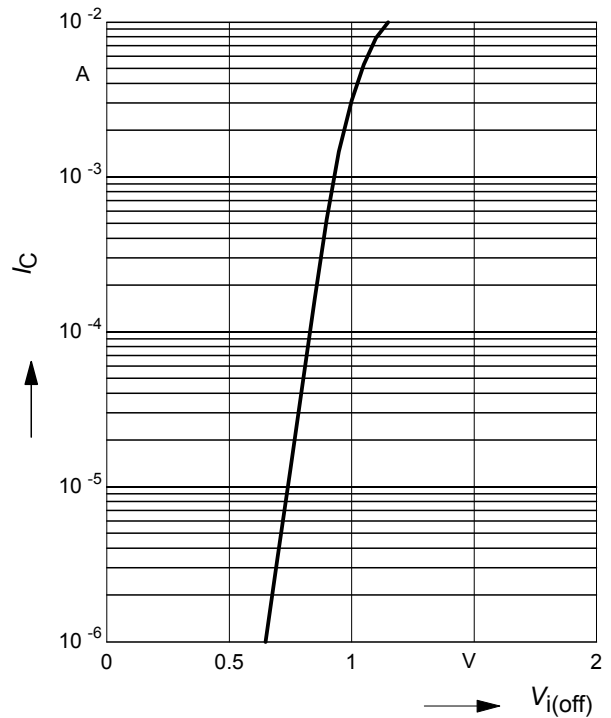
Input on Voltage $V_{i(on)} = f(I_C)$

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



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

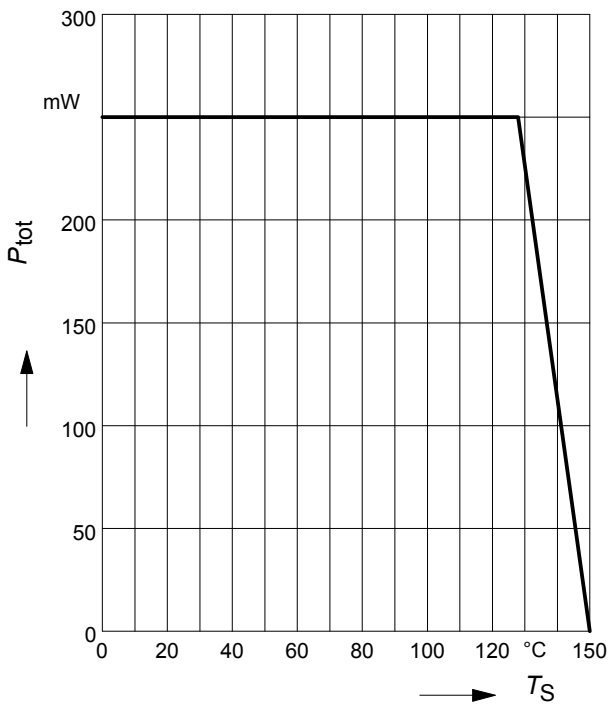
$V_{CE} = 5\text{ V}$ (common emitter configuration)





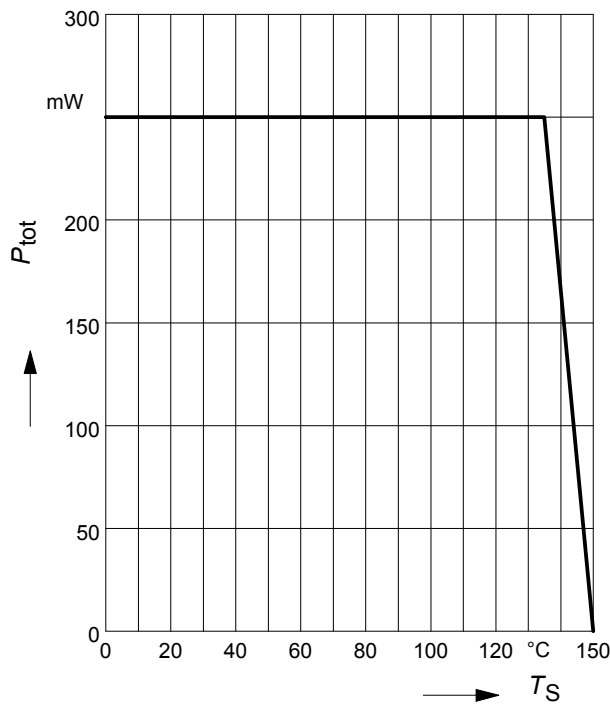
Total power dissipation $P_{tot} = f(T_S)$

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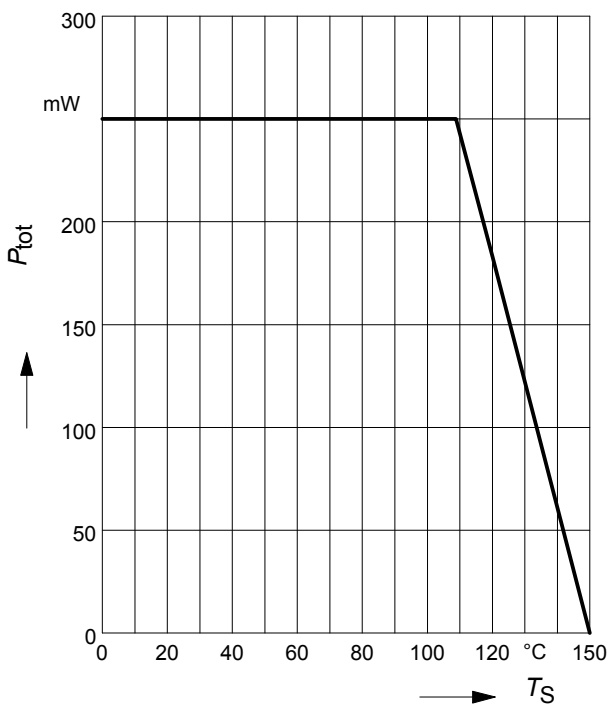
Total power dissipation $P_{tot} = f(T_S)$

BCR164L3



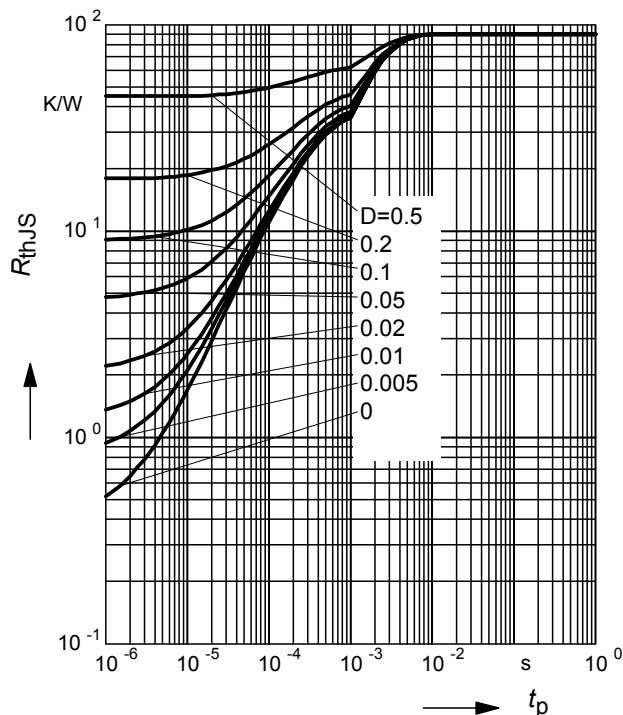
Total power dissipation $P_{tot} = f(T_S)$

BCR164T



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

BCR164F

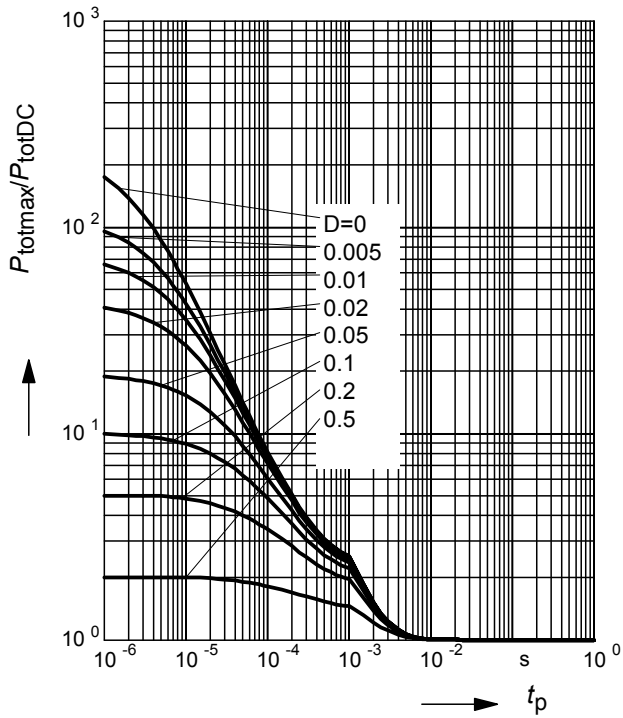




Permissible Pulse Load

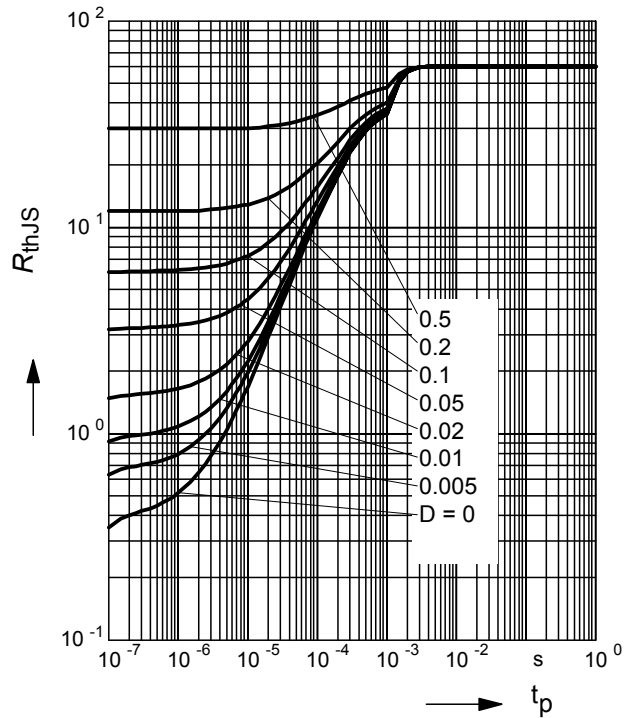
$P_{totmax}/P_{totDC} = f(t_p)$

BCR164F



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

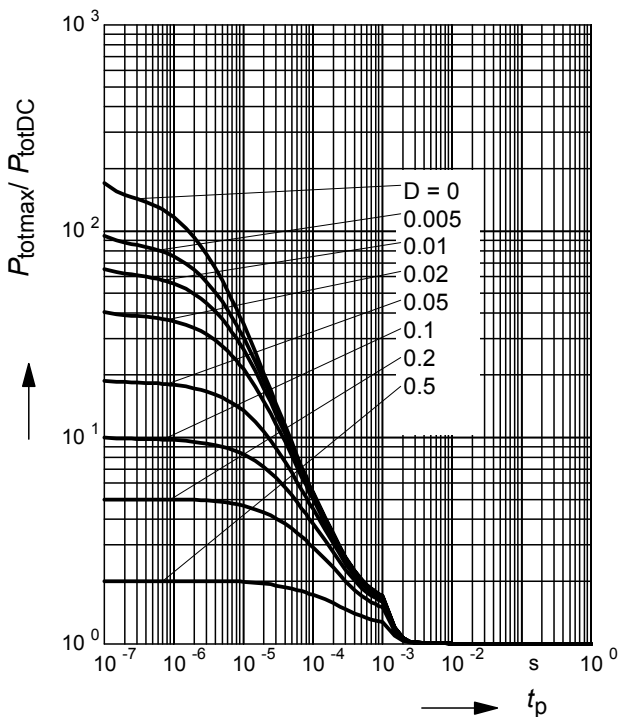
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Permissible Pulse Load

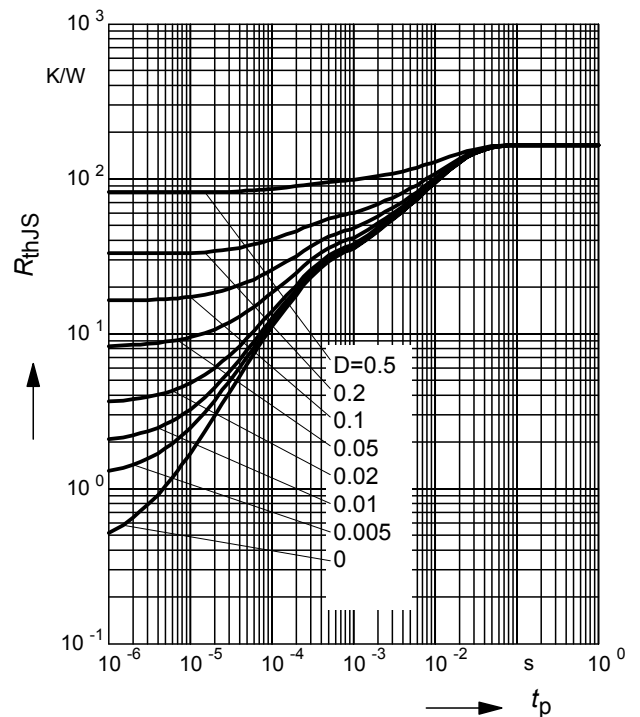
$P_{totmax}/P_{totDC} = f(t_p)$

BCR164L3



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

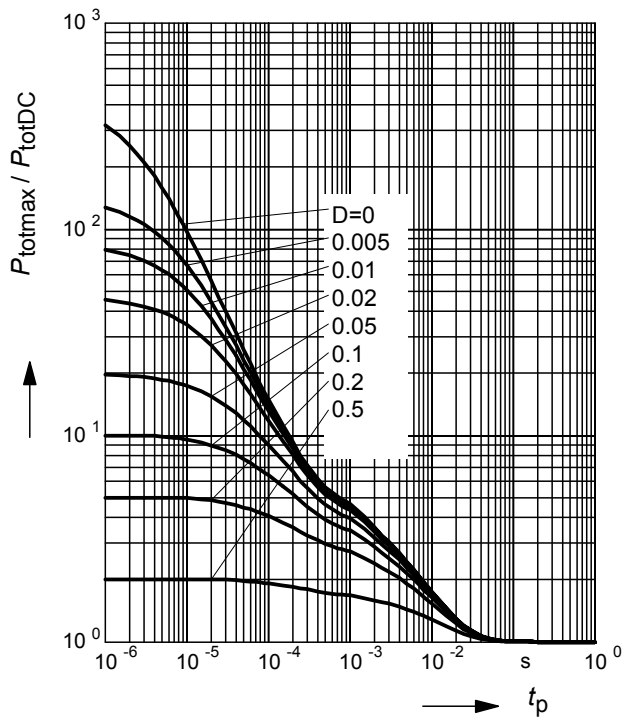
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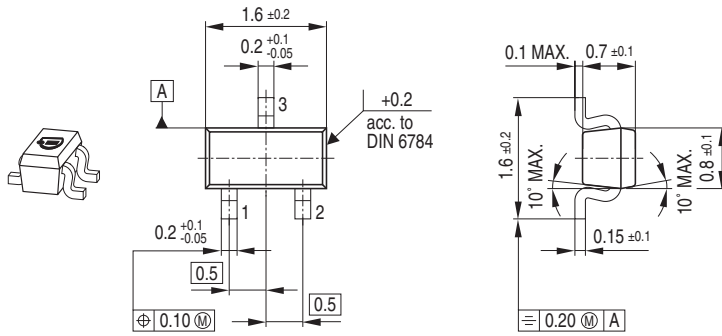
Permissible Pulse Load

$$P_{\text{totmax}}/P_{\text{totDC}} = f(t_p)$$

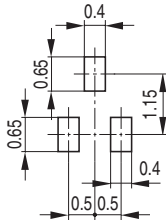
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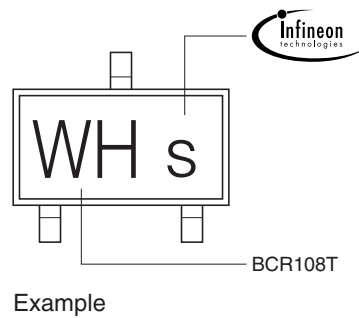
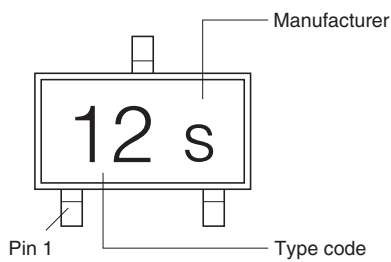
Package Outline



Foot Print

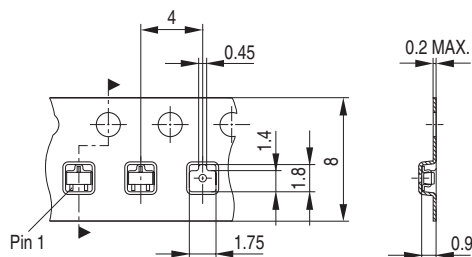


Marking Layout

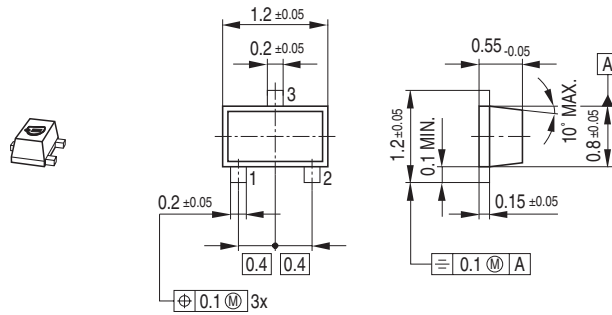


Packing

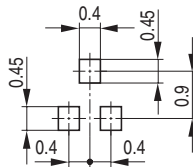
Code E6327: Reel $\varnothing 180 \text{ mm} = 3.000 \text{ Pieces/Reel}$
 Code E6433: Reel $\varnothing 330 \text{ mm} = 10.000 \text{ Pieces/Reel}$



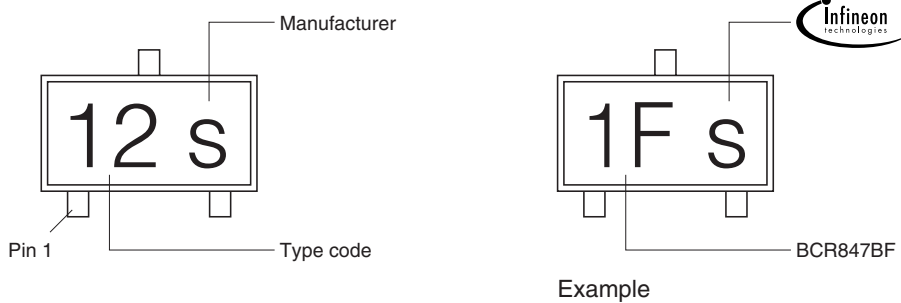
Package Outline



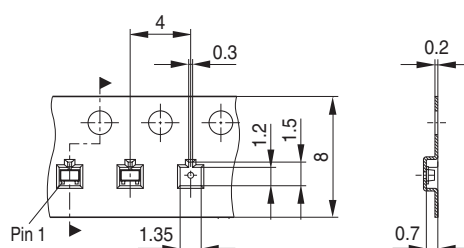
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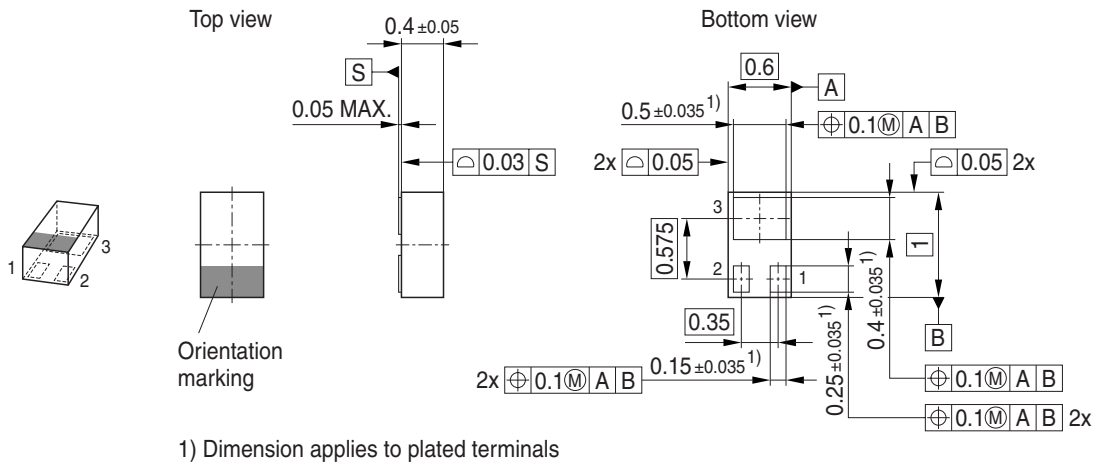
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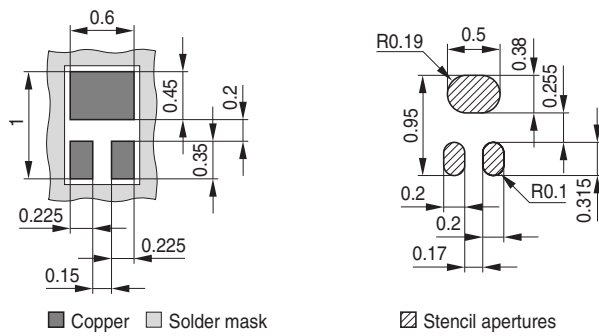
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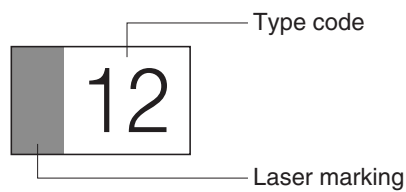
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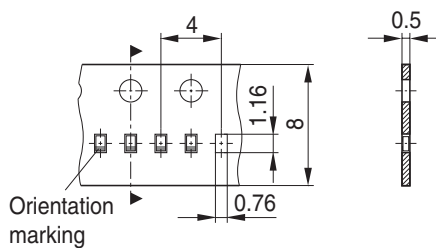


Marking Layout



Packing

Code E6327: Reel $\varnothing 180 \text{ mm} = 15.000 \text{ Pieces/Reel}$





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