2SC3413

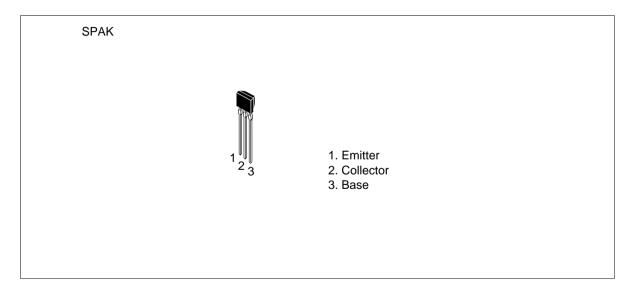
Silicon NPN Epitaxial

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Application

- Low frequency low noise amplifier
- HF amplifier

Outline





2SC3413

Absolute Maximum Ratings ($Ta = 25^{\circ}C$)

Item	Symbol	Ratings	Unit	
Collector to base voltage	V _{CBO}	40	V	
Collector to emitter voltage	V _{CEO}	V _{CEO} 30		
Emitter to base voltage	V _{EBO}	5	V	
Collector current	Ι _c	100	mA	
Collector power dissipation	Pc	300	mW	
Junction temperature	Тј	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

Electrical Characteristics ($Ta = 25^{\circ}C$)

Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	40	_	_	V	$I_{c} = 10 \ \mu A, I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	30	_	_	V	$I_c = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	_	_	V	$I_{\rm E} = 10 \ \mu A, \ I_{\rm C} = 0$
Collector cutoff current	I _{CBO}	_	_	0.5	μΑ	$V_{CB} = 18 \text{ V}, I_{E} = 0$
Emitter cutoff current	I _{EBO}	—	—	0.5	μΑ	$V_{EB} = 2 V, I_{C} = 0$
DC current transfer ratio	$h_{\rm FE}^{*1}$	100	—	500		$V_{ce} = 12 \text{ V}, \text{ I}_{c} = 2 \text{ mA}$
Base to emitter voltage	V_{BE}	—	—	0.75	V	$V_{ce} = 12 \text{ V}, \text{ I}_{c} = 2 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	0.2	V	$I_{c} = 10 \text{ mA}, I_{B} = 1 \text{ mA}$
Gain bandwidth product	f _T	_	200	_	MHz	$V_{ce} = 12 \text{ V}, \text{ I}_{c} = 2 \text{ mA}$
Collector output capacitance	Cob	_	—	3.5	pF	$V_{CB} = 10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$
Noise figure	NF	—	1.0	5.0	dB	$V_{ce} = 6 \text{ V}, \text{ I}_c = 0.1 \text{ mA},$ $R_g = 1 \text{ k}\Omega, \text{ f} = 1 \text{ kHz}$
Note: 1. The 2SC3413 is grouped by h _{FE} as follows.						

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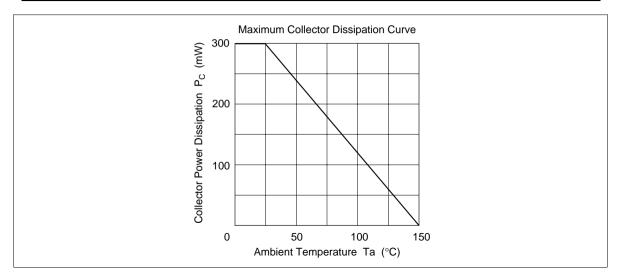
100 to 200 160 to 320 250 to 500

D

See characteristic curves of 2SC458(LG).

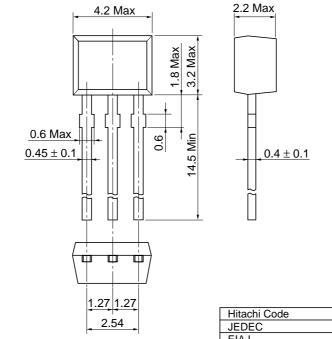
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2SC3413



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Unit: mm



Hitachi Code	SPAK
JEDEC	_
EIAJ	—
Weight (reference value)	0.10 g

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