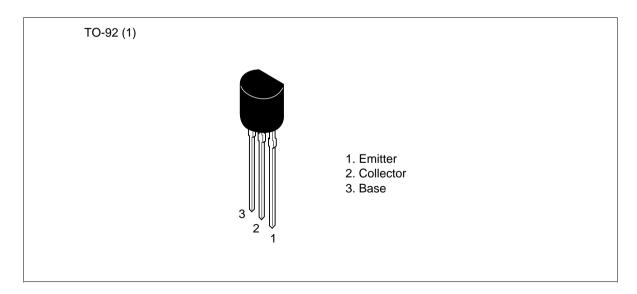
Silicon NPN Epitaxial

HITACHI

Application

- Low frequency low noise amplifier
- Complementary pair with 2SA872/A

Outline





Absolute Maximum Ratings (Ta = 25°C)

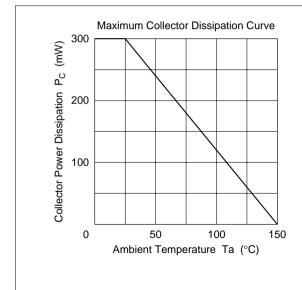
Item	Symbol	2SC1775	2SC1775A	Unit
Collector to base voltage	V_{CBO}	90	120	V
Collector to emitter voltage	V _{CEO}	90	120	V
Emitter to base voltage	V_{EBO}	5	5	V
Collector current	I _c	50	50	mA
Collector power dissipation	P _c	300	300	mW
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	-55 to +150	-50 to +150	°C

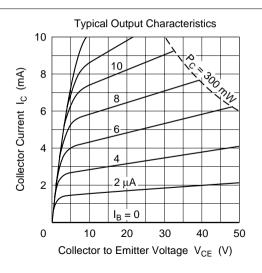
Electrical Characteristics (Ta = 25°C)

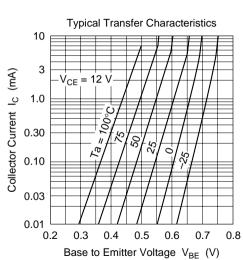
		2SC1	775		2SC1775A					
Item	Symbol	Min	Тур	Max	Min	Тур	Max	Unit	Test condition	ns
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	_	_	120	_	_	V	$I_{\rm C}$ = 1 mA, $R_{\rm BE}$	= ∞
Collector cutoff current	I _{CBO}	_	_	0.5	_	_	_	μΑ	$V_{CB} = 75 \text{ V}, I_{E} =$	= 0
		_	_	_	_	_	0.5	μΑ	$V_{CB} = 100 \text{ V}, I_{E}$	= 0
DC current transfer ratio	h _{FE1} *1	400	_	1200	400	_	1200		$V_{CE} = 12 \text{ V}, I_{C} =$	= 2 mA
	h _{FE2}	160	_	_	160	_	_		$V_{CE} = 12 \text{ V},$ $I_C = 0.1 \text{ mA}$	
Base to emitter voltage	V _{BE}	_	_	0.75	_	_	0.75	V	V _{CE} = 12 V, I _C =	= 2 mA
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	0.5	_	_	0.5	V	$I_{\rm C}$ = 10 mA, $I_{\rm B}$	= 1 mA
Gain bandwidth product	f _T	_	200	_	_	200	_	MHz	V _{CE} = 12 V, I _C =	= 2 mA
Collector output capacitance	Cob	_	1.6	_	_	1.6	_	pF	$V_{CB} = 25 \text{ V}, I_{E} = 1 \text{ MHz}$	= 0,
Noise figure	NF	_	_	5.0	_	_	5.0	dB	$V_{CE} = 6 \text{ V},$ $I_{C} = 50 \mu\text{A},$ $R_{g} = 50 k\Omega$	f = 10 Hz
		_	_	1.5	_	_	1.5	dB		f = 1 kHz

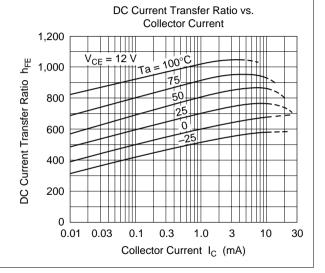
Note: 1. The 2SC1775/A is grouped by h_{FE1} as follows.

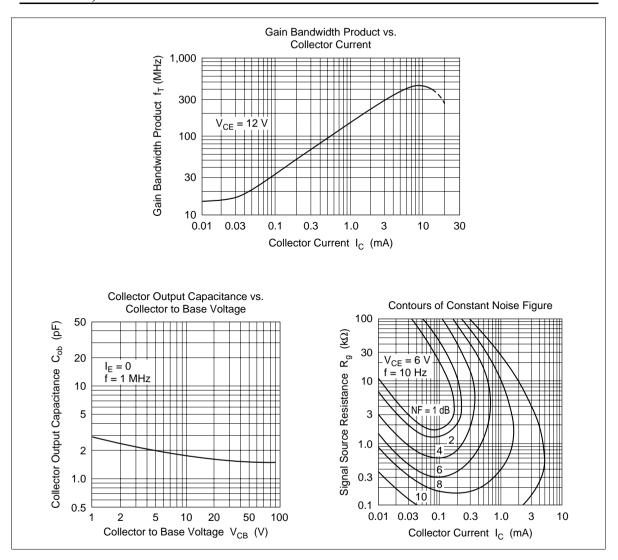
E	F
400 to 800	600 to 1200

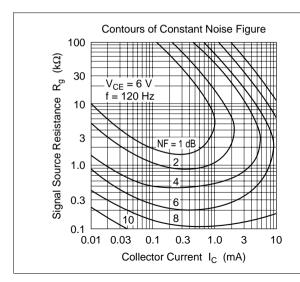


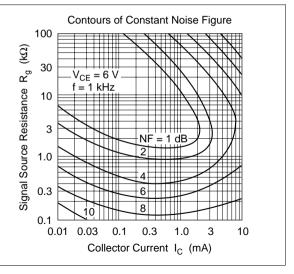




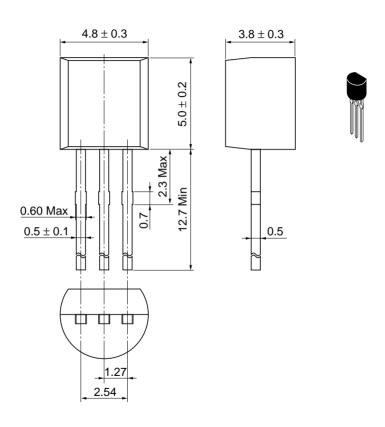








Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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