

Low frequency amplifier

QST4

●Application

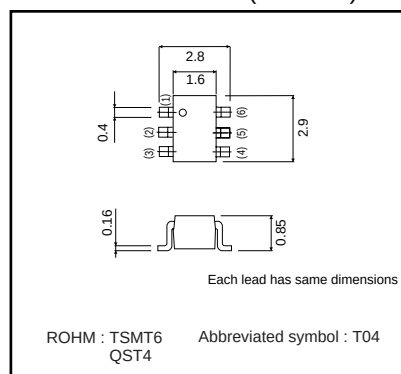
Low frequency amplifier

Driver

●Features

- 1) A collector current is large.
- 2) $V_{CE(sat)}$: max. -250mV
At $I_C = -1.5A$ / $I_B = -30mA$

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

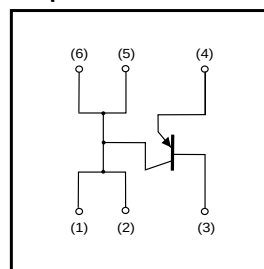
Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-15	V
Collector-emitter voltage	V_{CEO}	-12	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_C	-3	A
	I_{CP}	-6	A ^{*1}
Power dissipation	P_C	500	mW ^{*2}
		1.25	W ^{*3}
Junction temperature	T_J	150	°C
Range of storage temperature	T_{stg}	-55 to +150	°C

*1 Single pulse, $P_w = 1ms$

*2 Each Terminal Mounted on a Recommended

*3 Mounted on a 25mm×25mm×0.8mm Ceramic substrate

●Equivalent circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-15	-	-	V	$I_C = -10\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-12	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	-6	-	-	V	$I_E = -10\mu A$
Collector cutoff current	I_{CBO}	-	-	-100	nA	$V_{CB} = -15V$
Emitter cutoff current	I_{EBO}	-	-	-100	nA	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-120	-250	mV	$I_C = -1.5A$, $I_B = -30mA$
DC current gain	h_{FE}	270	-	680	-	$V_{CE} = -2V$, $I_C = -500mA$ *
Transition frequency	f_T	-	280	-	MHz	$V_{CE} = -2V$, $I_E = 500mA$, $f = 100MHz$ *
Collector output capacitance	C_{ob}	-	30	-	pF	$V_{CB} = -10V$, $I_E = 0A$, $f = 1MHz$

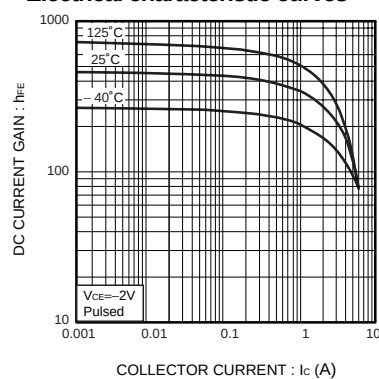
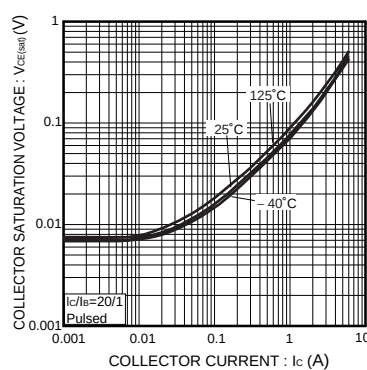
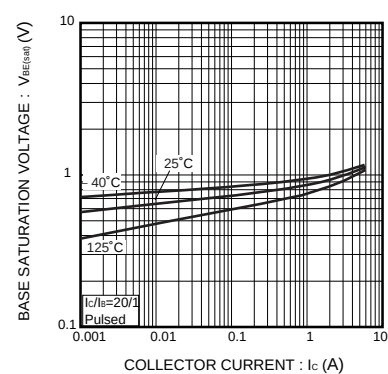
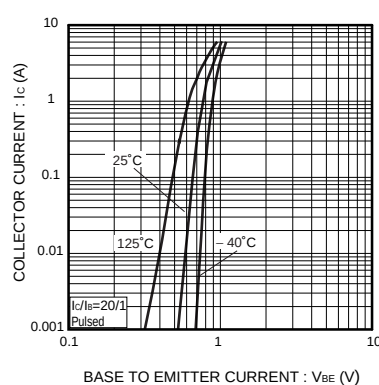
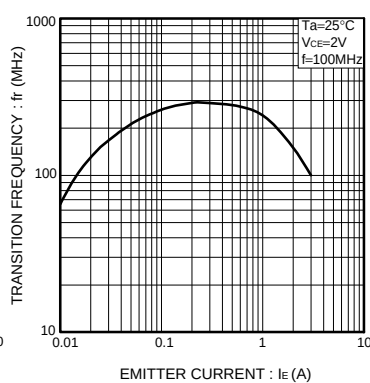
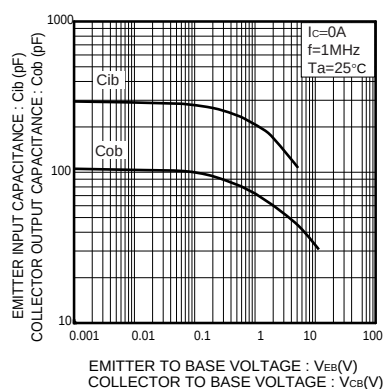
* Pulsed

Transistors

●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
QST4		○

●Electrical characteristic curves

Fig.1. DC current gain
vs. collector currentFig.2 Collector-emitter saturation voltage
vs. collector currentFig.3 Base-emitter saturation voltage
vs. collector currentFig.4 Grounded emitter propagation
characteristicsFig.5 Gain bandwidth product
vs. emitter currentFig.6. Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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