General purpose amplification (–12V, –1.5A)

QST8

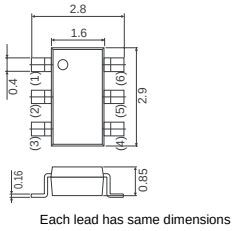
●Application

Low frequency amplifier
Driver

●Features

1) A collector current is large.
2) Collector saturation voltage is low.
   $V_{CE\ (sat)}$: max. −200mV
   At I_C = −500mA / I_B = −25mA

●External dimensions (Unit : mm)



Each lead has same dimensions

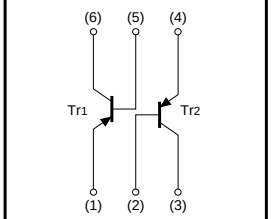
ROHM : TSMT6 Abbreviated symbol : T08

●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	–1.5	A
	I_{CP}	–3	A *1
Power dissipation	P_C	500	mW/TOTAL *2
		1.25	W/TOTAL *3
		0.9	W/ELEMENT *3
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	–55 to +150	°C

*1 Single pulse, Pw=1ms
*2 Each Terminal Mounted on a Recommended
*3 Mounted on a 25mm×25mm×t0.8mm 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= –10μA
Collector-emitter breakdown voltage	BV_{CEO}	–12	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E= –10μA
Collector cutoff current	I_{CBO}	–	–	–100	nA	V_{CB}= –15V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}= –6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–85	–200	mV	I_C= –500mA, I_B= –25mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}= –2V, I_C= –200mA *
Transition frequency	f_T	–	400	–	MHz	V_{CE}= –2V, I_E=200mA, f=100MHz *
Corrector output capacitance	Cob	–	12	–	pF	V_{CB}= –10V, I_E=0A, f=1MHz

*Pulsed

●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
QST8		○

●Electrical characteristic curves

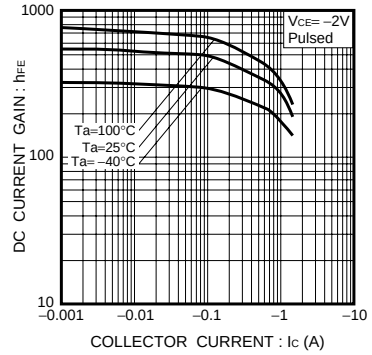


Fig.1 DC current gain vs. collector current

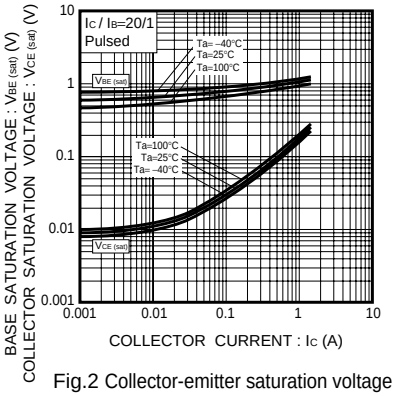


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

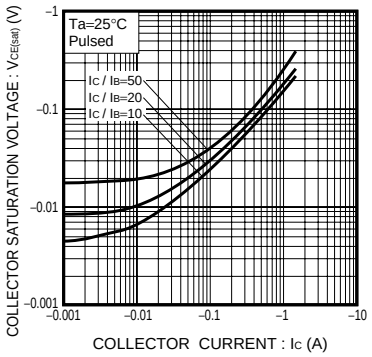


Fig.3 Collector-emitter saturation voltage vs. collector current

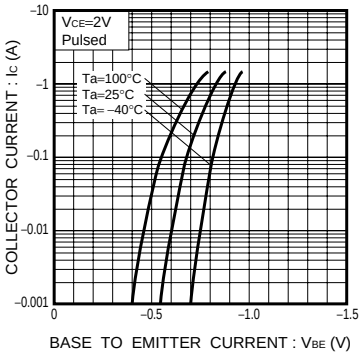


Fig.4 Grounded emitter propagation characteristics

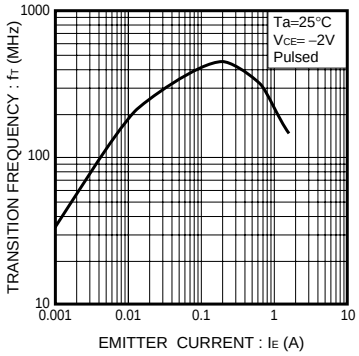


Fig.5 Gain bandwidth product vs. emitter current

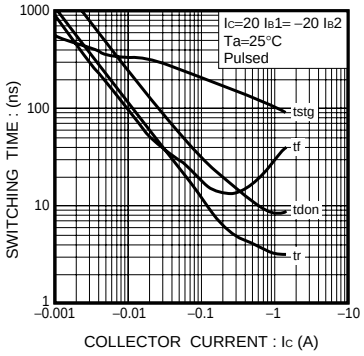


Fig.6 Switching time

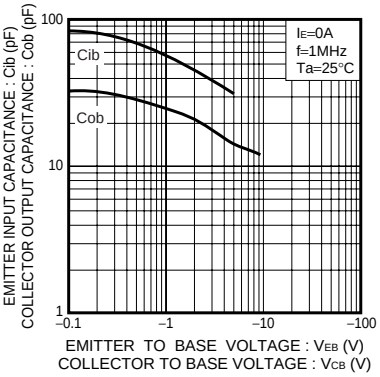


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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