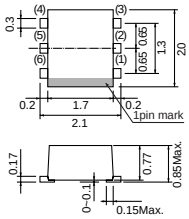
General purpose amplification (30V, 1A)

US6X8

●**Application**
Low frequency amplifier

●**Features**
1) Collector current is large.
2) Collector saturation voltage is low.
VCE (sat) : max. 350mV
at Ic= 500mA / IB= 25mA

●**External dimensions** (Unit : mm)



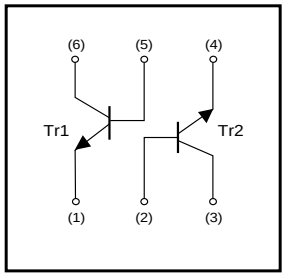
ROHM : TUMT6 Abbreviated symbol : X08

●**Absolute maximum ratings** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	VCBO	30	V
Collector-emitter voltage	VCEO	30	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	1	A
	ICP	2	A *1
Power dissipation	PC	0.4	W/TOTAL *2
		1.0	W/TOTAL *3
		0.7	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	BVCBO	30	–	–	V	IC=10μA
Collector-emitter breakdown voltage	BVCEO	30	–	–	V	IC=1mA
Emitter-base breakdown voltage	BVEBO	6	–	–	V	IE=10μA
Collector cutoff current	ICBO	–	–	100	nA	VCB=30V
Emitter cutoff current	IEBO	–	–	100	nA	VEB=6V
Collector-emitter saturation voltage	VCE(sat)	–	120	350	mV	IC/IB=500mA/25mA
DC current gain	hFE	270	–	680	–	VCE/IC=2V/100mA *
Transition frequency	fT	–	320	–	MHz	VCE=2V, IE=−100mA, f=100MHz *
Collector output capacitance	Cob	–	7	–	pF	VCB=10V, IE=0A, f=1MHz

* Pulsed

●Packaging specifications

Type	Package	
	Code	TR
	Basic ordering unit (pieces)	3000
US6X8		○

●Electrical characteristic curves

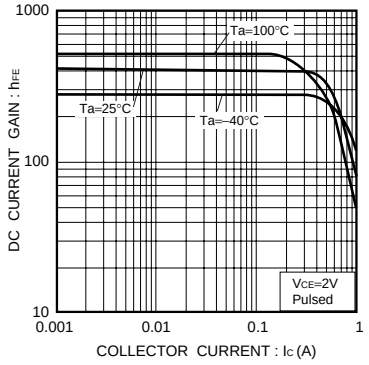


Fig.1 DC current gain vs. collector current

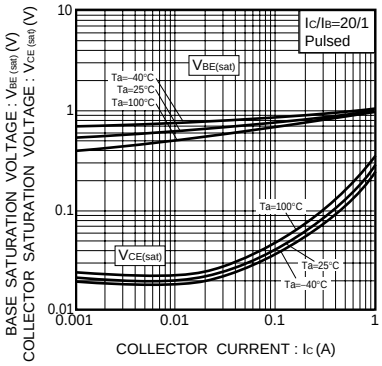


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

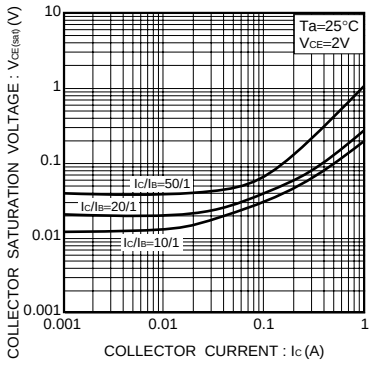


Fig.3 Collector-emitter saturation voltage vs. collector current

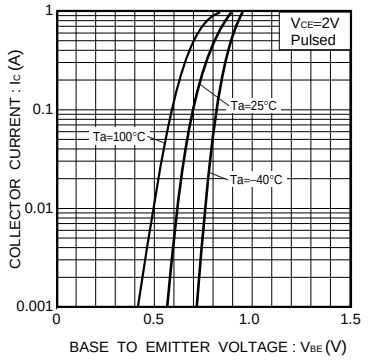


Fig.4 Grounded emitter propagation characteristics

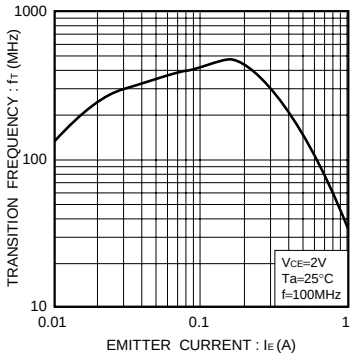


Fig.5 Gain bandwidth product vs. emitter current

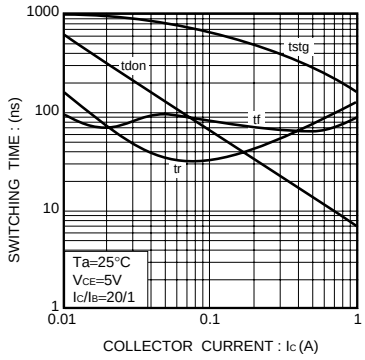


Fig.6 Switching time

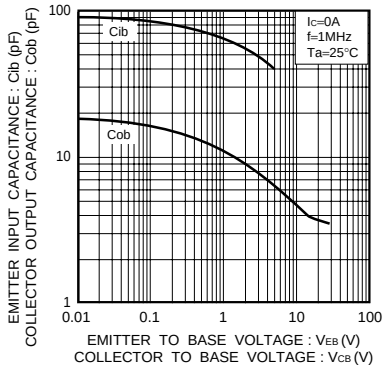


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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