Low frequency transistor (12V, 0.5A)

2SC5585 / 2SC5663

The transistor of 500mA class which went only into 2125 size conventionally was attained in 1608 sizes or 1208 sizes.

●Applications

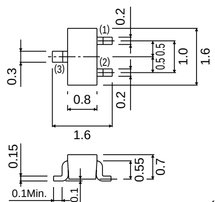
For switching
For muting

●Features

1) High current.
2) Low $V_{CE(sat)}$.
   $V_{CE(sat)} \leq 250mV$ at $I_C = 200mA$ / $I_B = 10mA$

●External dimensions (Unit : mm)

2SC5585

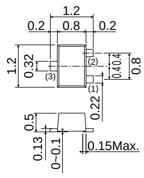


ROHM : EMT3
EIAJ : SC-75A
JEDEC : SOT-416

Abbreviated symbol : BX

(1) Emitter
(2) Base
(3) Collector

2SC5663



ROHM : VMT3

Abbreviated symbol : BX

(1) Base
(2) Emitter
(3) Collector

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collectot-base voltage	V_{CBO}	15	V	
Collector-emitter voltage	V_{CEO}	12	V	
Emitter-base voltage	V_{EBO}	6	V	
Collector current	I_C	500	mA	
	I_{CP}	1	A	*
Collector power dissipation	P_C	150	mW	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	−55 to +150	°C	

* Single pulse Pw = 1ms

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	15	–	–	V	$I_C = 10\mu A$
Collectoe-emitter brakdown 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	$V_{CB} = 6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	90	250	mV	$I_C = 200mA$, $I_B = 10mA$
DC current transfer ratio	h_{FE}	270	–	680	–	$V_{CE} = 2V$, $I_C = 10mA$
Transition frequency	f_T	–	320	–	MHz	$V_{CE} = 2V$, $I_E = -10mA$, f = 100MHz
Output capacitance	Cob	–	7.5	–	pF	$V_{CB} = 10V$, $I_E = 0A$, f = 1MHz

●Packaging specifications

Type	h_{FE}	Package	Taping	
		Code	TL	T2L
		Basic ordering unit (pieces)	3000	8000
2SC5585			○	−
2SC5663			−	○

●Electrical characteristic curves

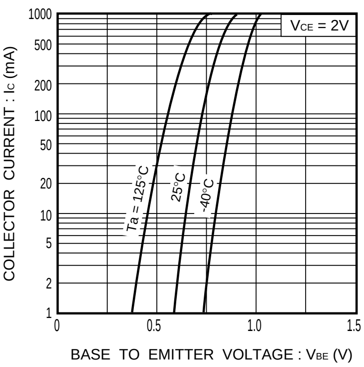


Fig.1 Grounded emitter propagation characteristics

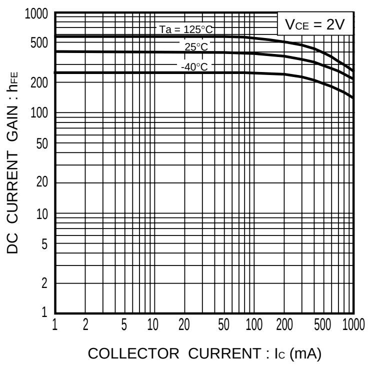


Fig.2 DC current gain vs. collector current

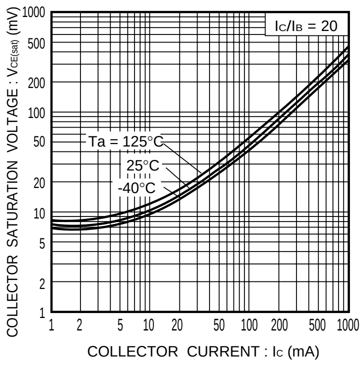


Fig.3 Collector-emitter saturation voltage vs. collector current (I)

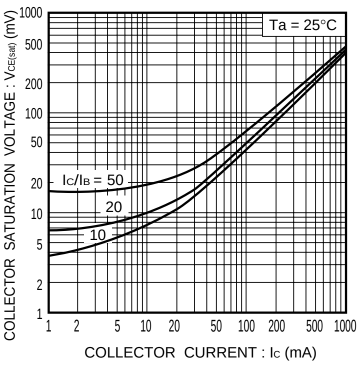


Fig.4 Collector-emitter saturation voltage vs. collector current (II)

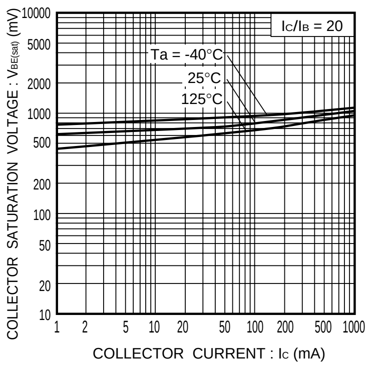


Fig.5 Base-emitter saturation voltage vs. collector current

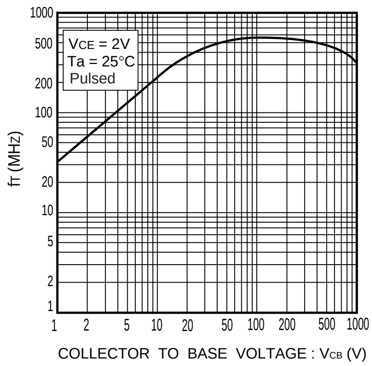


Fig.6 Collector output capacitance
Emitter input capacitance
vs. base voltage

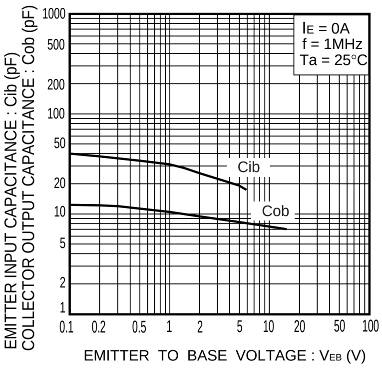


Fig.7 Collector output capacitance vs collector-base voltage
Emitter input capacitance vs emitter-base voltage

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