High-Voltage Switching Applications

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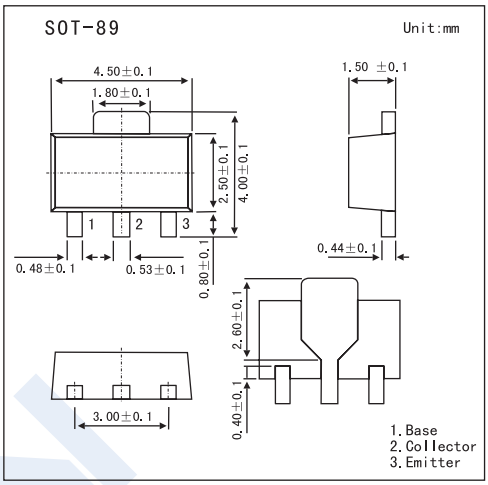

Features

- Adoption of FBET Process
- High Breakdown Voltage (V_{CEO} = 160V)
- Excellent Linearlity of h_{FE} and Small C_{ob}
- Fast Switching Speed

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	140	mA
Collector Current (Pulse)	I_{CP}	200	mA
Collector Power Dissipation	P_C	500	mW
	P_C *	1.3	W
Jumction temperature	T_j	150	℃
Storage temperature Range	T_{stg}	-55 to +150	℃

* Mounted on ceramic board (250 mm^2 x 0.8 mm)

Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector Cut-off Current	I_{CBO}	V_{CB} = 80V , I_E = 0			100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V , I_C = 0			100	nA
DC Current Gain	h_{FE}	V_{CE} = 5V , I_C = 10mA	100		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 50mA , I_B = 5mA		0.14	0.4	V
Gain-Bandwidth Product	f_T	V_{CE} = 10V , I_C = 10mA		150		MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V , I_E = 0 , f = 1MHz		4		pF
Turn-On Time	t_{on}	See Test Circuit.		0.1		μs
Storage Time	t_{stg}			1.5		
Fall Time	t_f			0.1		

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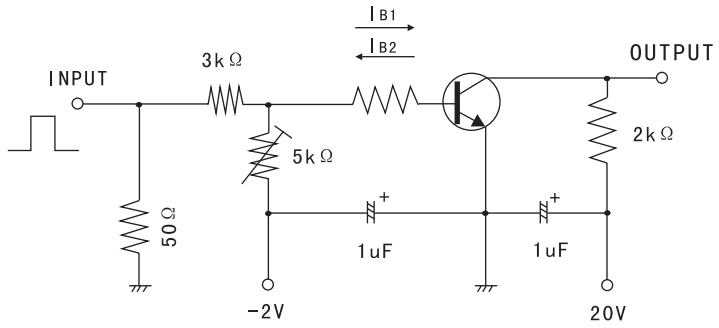
■ Test Circuit

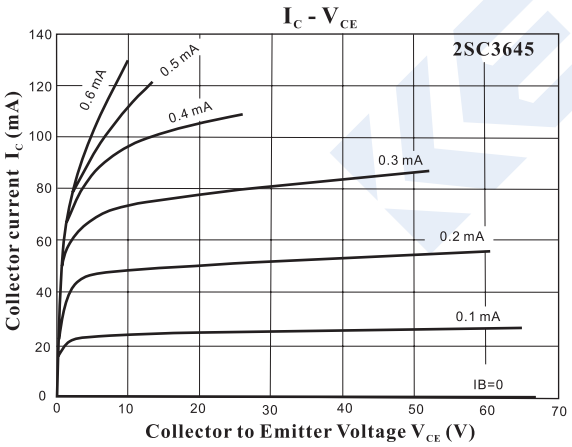


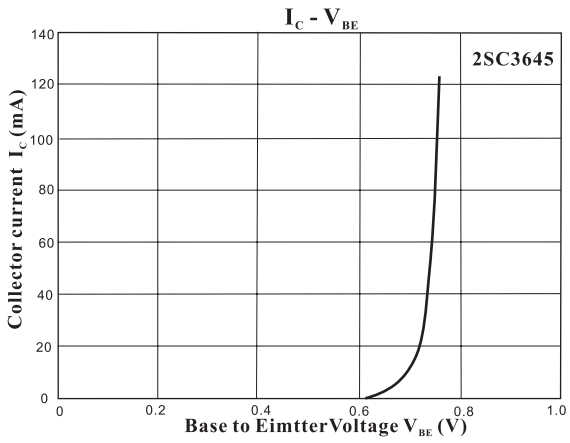
$I_C = 10I_{B1} = -10I_{B2} = 10mA$
(For PNP , the polarity is reversed.)

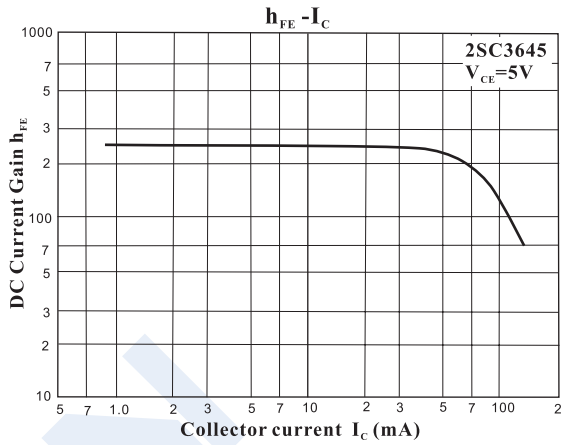
■ hFE Classification

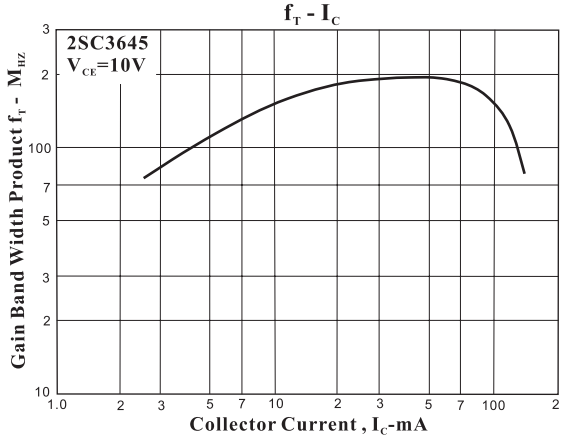
Marking	CA		
Rank	R	S	T
hFE	100 ～ 200	140 ～ 280	200 ～ 400

■ Electrical Characteristics Curves









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