

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

**FEATURES**

Power dissipation

$$P_{CM} : 0.2 \text{ W}$$

Collector current

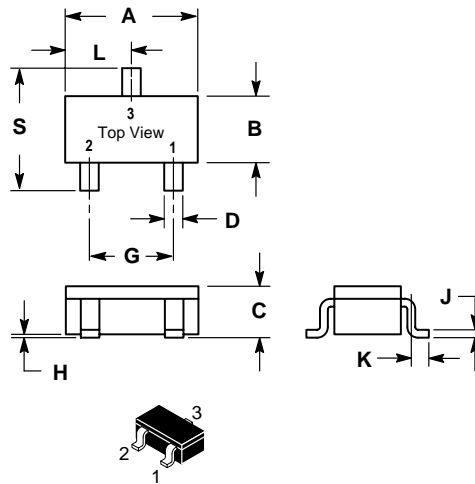
$$I_{CM} : -0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : -80 \text{ V}$$

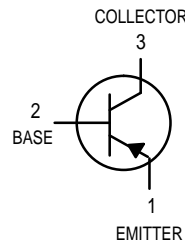
Operating and storage junction temperature range

$$T_J, T_{stg} : -55^\circ\text{C to } +150^\circ\text{C}$$



SC-59		
Dim	Min	Max
A	2.70	3.10
B	1.30	1.70
C	1.00	1.30
D	0.35	0.50
G	1.70	2.30
H	0.00	0.10
J	0.10	0.26
K	0.20	0.60
L	1.25	1.65
S	2.25	3.00

All Dimension in mm



**ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50 \mu\text{A}, I_E = 0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -2\text{mA}, I_B = 0$	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50 \mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50\text{V}, I_E = 0$			-0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}, I_C = 0$			-0.5	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = -3\text{V}, I_C = -100\text{mA}$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.5	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$		180		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		11		pF

**CLASSIFICATION OF  $h_{FE(1)}$**

Rank	Q	R
Range	120-270	180-390

**Electrical characteristic curves**

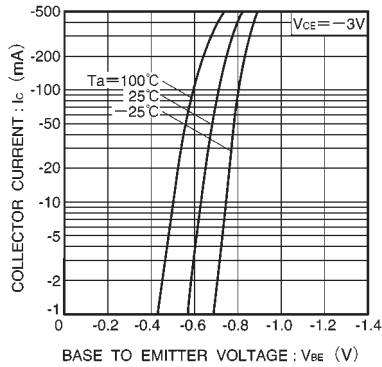


Fig.1 Grounded emitter propagation characteristics

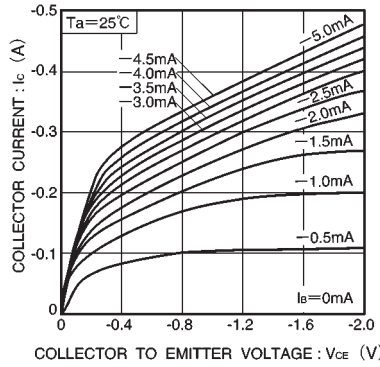


Fig.2 Grounded emitter output characteristics

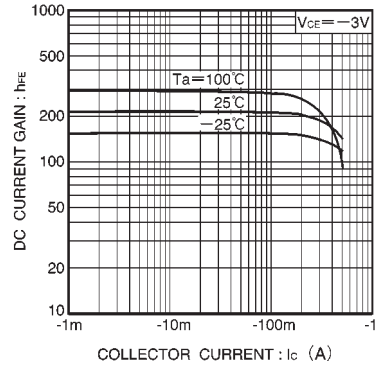


Fig.3 DC current gain vs. collector current

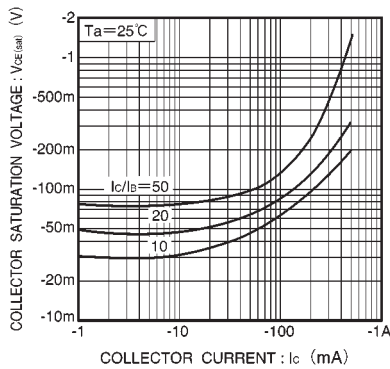


Fig.4 Collector-emitter saturation voltage vs. collector current ( I )

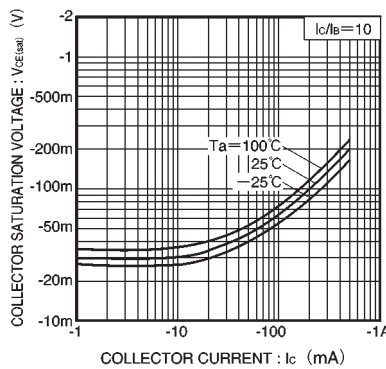


Fig.5 Collector-emitter saturation voltage vs. collector current ( II )

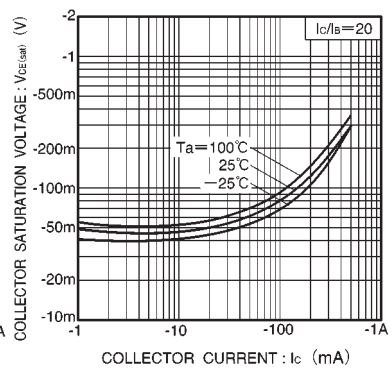


Fig.6 Collector-emitter saturation voltage vs. collector current ( III )

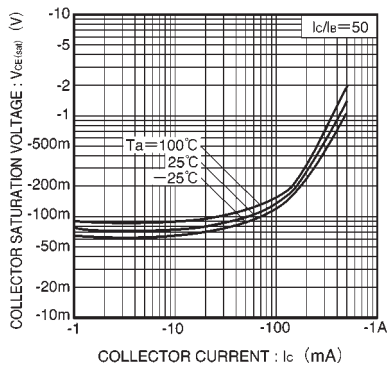


Fig.7 Collector-emitter saturation voltage vs. collector current ( IV )

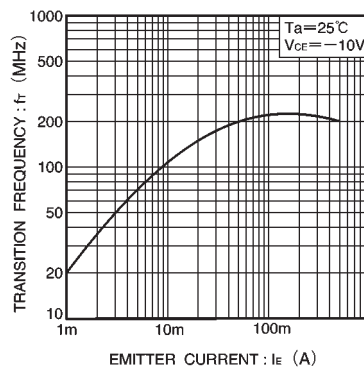


Fig.8 Gain bandwidth product vs. emitter current

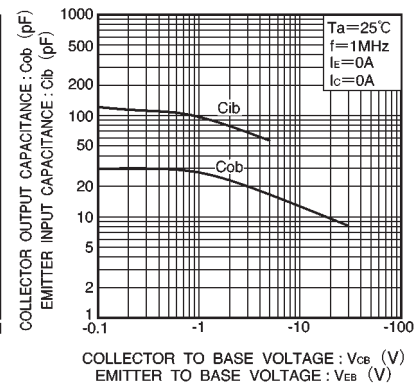


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage