

# 2SC5101

Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SA1909)

Application : Audio and General Purpose

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

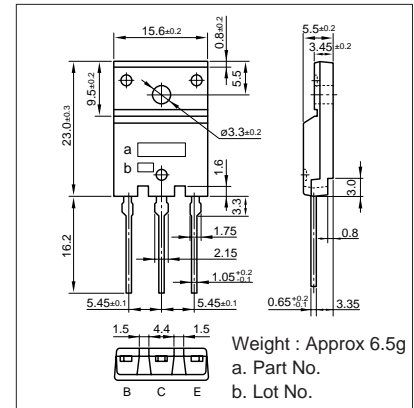
Symbol	Ratings	Unit
VcBO	200	V
VcEO	140	V
VEBO	6	V
Ic	10	A
IB	4	A
Pc	80(Tc=25°C)	W
Tj	150	°C
Tstg	-55 to +150	°C

**Electrical Characteristics** (Ta=25°C)

Symbol	Conditions	Ratings	Unit
IcBO	VcB=200V	10max	μA
IEBO	VEB=6V	10max	μA
V(BR)CEO	Ic=50mA	140min	V
hFE	VcE=4V, Ic=3A	50min*	
VcE(sat)	Ic=5A, IB=0.5A	0.5max	V
fr	VcE=12V, IE=-0.5A	20typ	MHz
COB	VcB=10V, f=1MHz	250typ	pF

\*hFE Rank  $\bar{O}$ (50 to 100), P(70 to 140), Y(90 to 180)

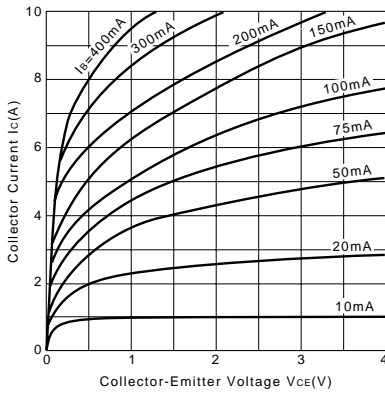
**External Dimensions FM100(TO3PF)**



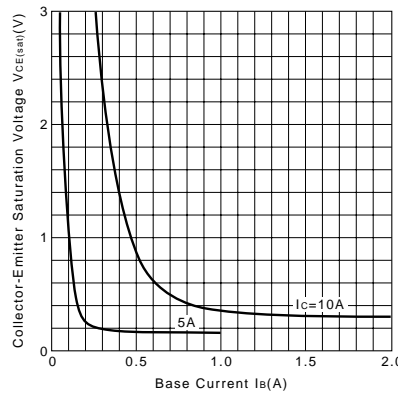
**Typical Switching Characteristics (Common Emitter)**

VcC (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	IB1 (A)	IB2 (A)	ton (μs)	tstg (μs)	tf (μs)
60	12	5	10	-5	0.5	-0.5	0.24typ	4.32typ	0.40typ

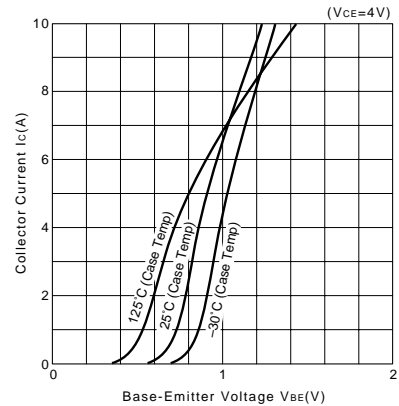
**Ic-VcE Characteristics (Typical)**



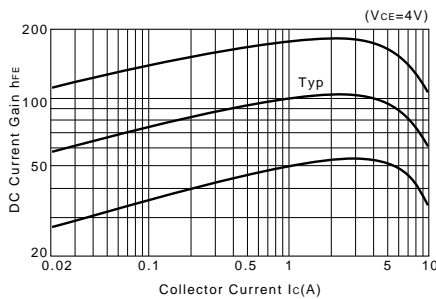
**VcE(sat)-Ib Characteristics (Typical)**



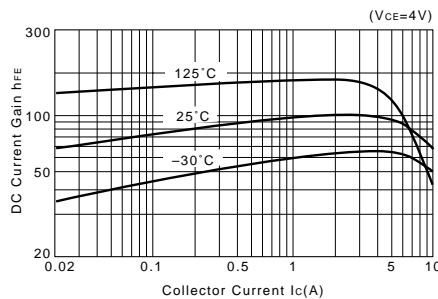
**Ic-VBE Temperature Characteristics (Typical)**



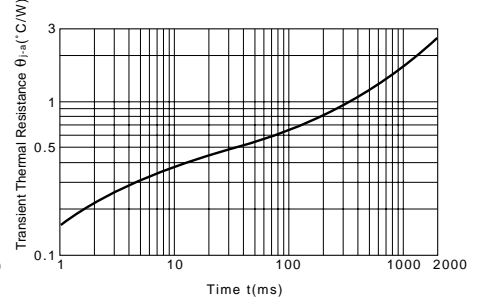
**hFE-Ic Characteristics (Typical)**



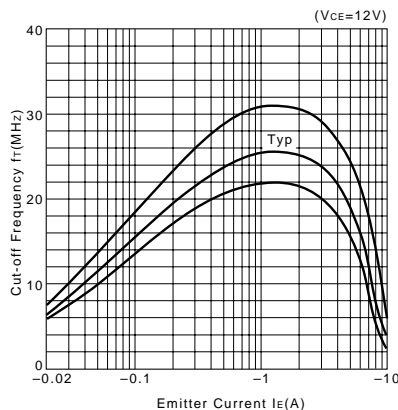
**hFE-Ic Temperature Characteristics (Typical)**



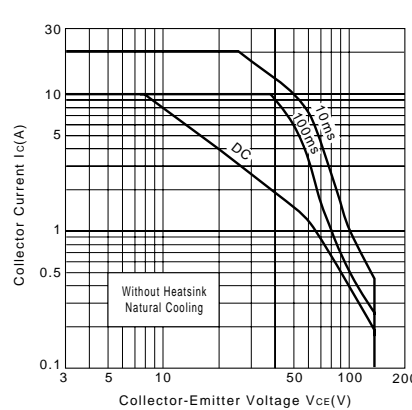
**θj-a-t Characteristics**



**fr-IE Characteristics (Typical)**



**Safe Operating Area (Single Pulse)**



**Pc-Ta Derating**

