

# 2SC4301

Silicon NPN Triple Diffused Planar Transistor (High Voltage Switching Transistor) Application : Switching Regulator, Lighting Inverter and General Purpose

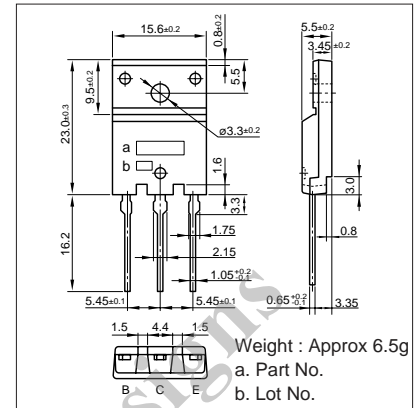
**Absolute maximum ratings** (Ta=25°C)

Symbol	Ratings	Unit
VcBO	900	V
VcEO	800	V
VEBO	7	V
Ic	7(Pulse14)	A
IB	3.5	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=800V	100max	μA
IEBO	VEB=7V	100max	μA
V(BR)CEO	Ic=10mA	800min	V
hFE	VCE=4V, Ic=3A	10 to 30	
VCE(sat)	Ic=3A, IB=0.6A	0.5max	V
VBE(sat)	Ic=3A, IB=0.6A	1.2max	V
fr	VCE=12V, IE=-1A	6typ	MHZ
COB	VcB=10V, f=1MHZ	105typ	pF

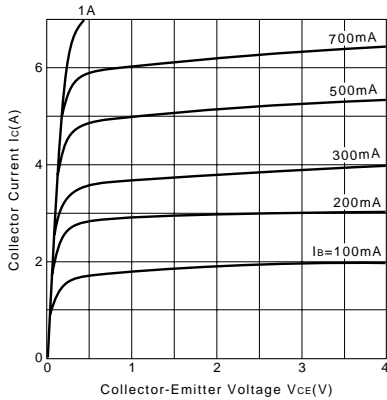
**External Dimensions FM100(TO3PF)**



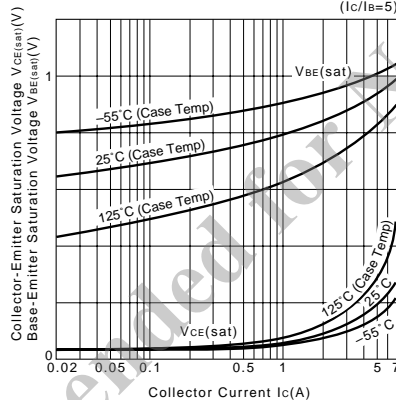
**Typical Switching Characteristics (Common Emitter)**

Vcc (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	IB1 (A)	IB2 (A)	ton (μs)	tstg (μs)	tf (μs)
250	83	3	10	-5	0.45	-1.5	1max	5max	1max

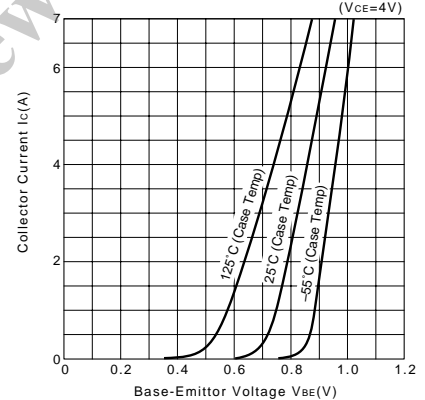
**Ic-VCE Characteristics (Typical)**



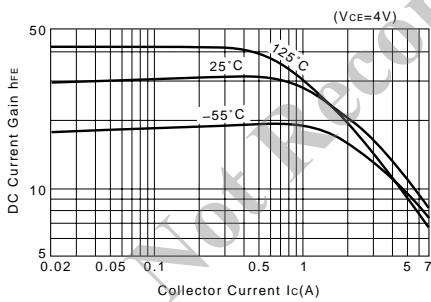
**VCE(sat), VBE(sat)-Ic Temperature Characteristics (Typical)**



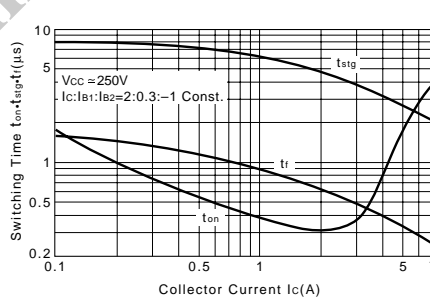
**Ic-VBE Temperature Characteristics (Typical)**



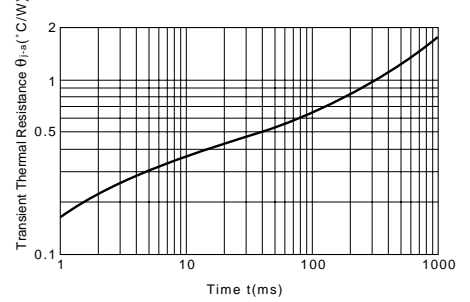
**hFE-Ic Characteristics (Typical)**



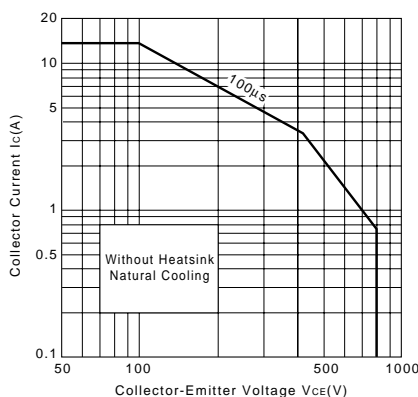
**ton, tstg, tr-Ic Characteristics (Typical)**



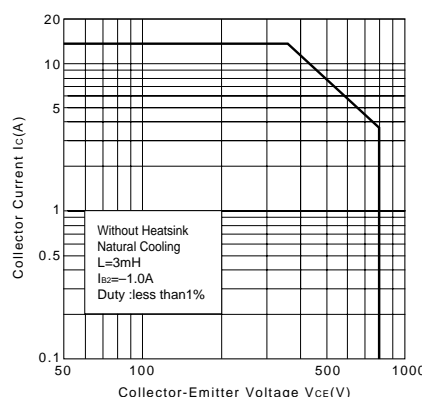
**θj-a-t Characteristics**



**Safe Operating Area (Single Pulse)**



**Reverse Bias Safe Operating Area**



**Pc-Ta Derating**

