

2SC4140

Silicon NPN Triple Diffused Planar Transistor (High Voltage and High Speed Switching Transistor)

Application : Switching Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
VCBO	500	V
VCEO	400	V
VEBO	10	V
Ic	18(Pulse36)	A
IB	6	A
Pc	130(Tc=25°C)	W
Tj	150	°C
Tstg	-55 to +150	°C

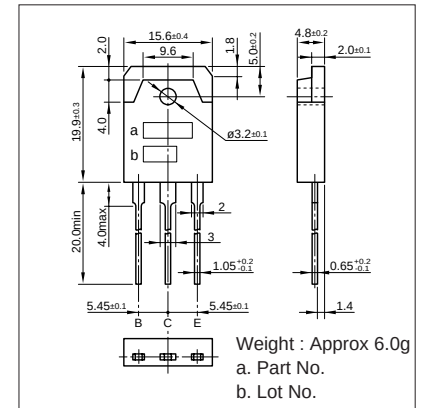
Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings	Unit
ICBO	VCB=500V	100max	μA
IEBO	VEB=10V	100max	μA
V(BR)CEO	Ic=25mA	400min	V
hFE	VCE=4V, Ic=10A	10 to 30	
VCE(sat)	Ic=10A, IB=2A	0.5max	V
VBE(sat)	Ic=10A, IB=2A	1.3max	V
fr	VCE=12V, IE=-2.0A	10typ	MHz
COB	VCB=10V, f=1MHz	165typ	pF

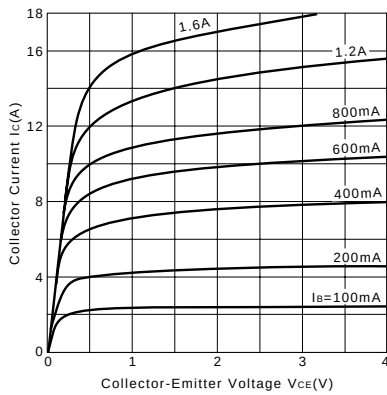
Typical Switching Characteristics (Common Emitter)

VCC (V)	RL (Ω)	Ic (A)	VBB1 (V)	VBB2 (V)	IB1 (A)	IB2 (A)	ton (μs)	tstg (μs)	tf (μs)
200	20	10	10	-5	1	-2	1max	3max	0.5max

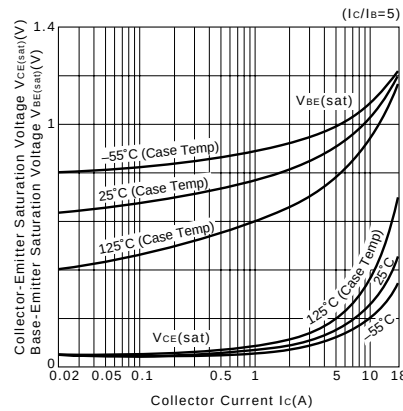
External Dimensions MT-100(TO3P)



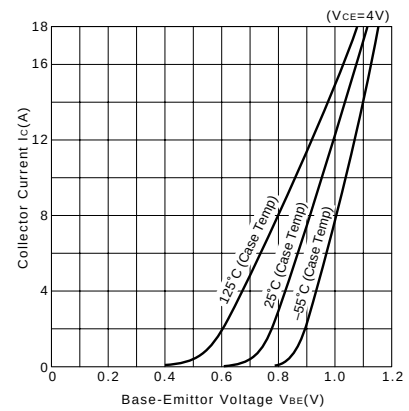
IC-VCE Characteristics (Typical)



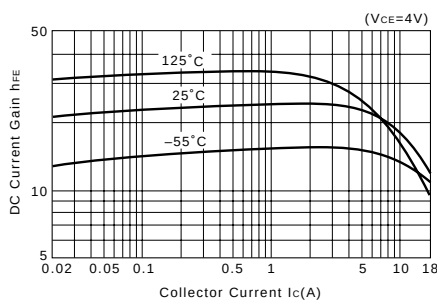
VCE(sat), VBE(sat)-IC Temperature Characteristics (Typical)



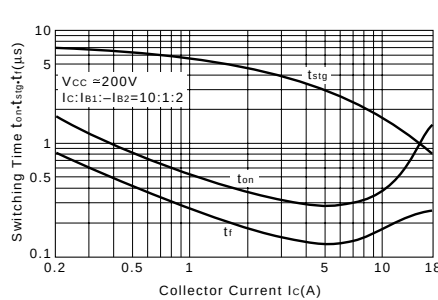
IC-VBE Temperature Characteristics (Typical)



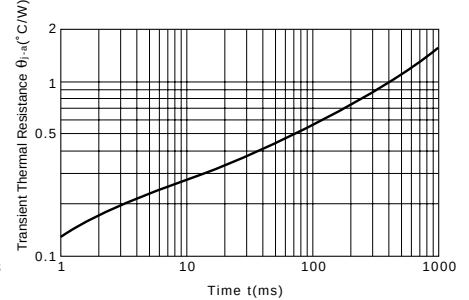
hFE-IC Characteristics (Typical)



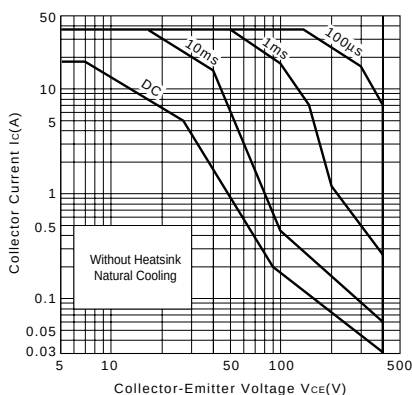
ton, tstg, tr-IC Characteristics (Typical)



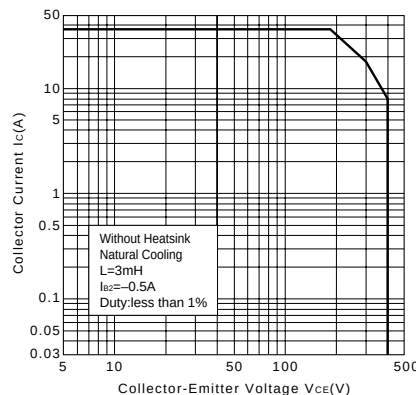
θJA-t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



Pc-Ta Derating

