

2SC2023

Silicon NPN Triple Diffused Planar Transistor

Application : Series Regulator, Switch, and General Purpose

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

Symbol	2SC2023	Unit
V _{CB0}	300	V
V _{CE0}	300	V
V _{EB0}	6	V
I _C	2	A
I _B	0.2	A
P _C	40(T _C =25°C)	W
T _J	150	°C
T _{stg}	-55 to +150	°C

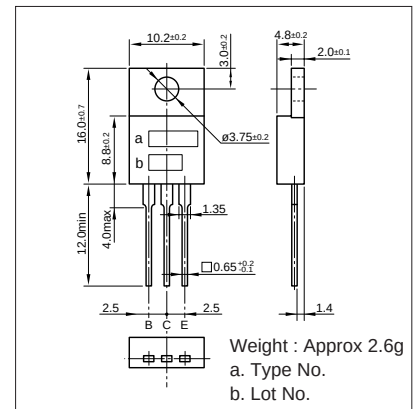
■Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SC2023	Unit
ICBO	$V_{CB}=300V$	1.0max	mA
IEBO	$V_{EB}=6V$	1.0max	mA
$V_{(BR)CEO}$	$I_C=25mA$	300min	V
h_{FE}	$V_{CE}=4V, I_C=0.5A$	30min	
$V_{CE(sat)}$	$I_C=1.0A, I_B=0.2A$	1.0max	V
f_T	$V_{CE}=12A, I_E=-0.2A$	10typ	MHz
COB	$V_{CB}=10V, f=1MHz$	75typ	pF

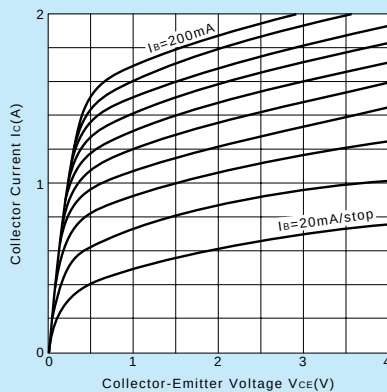
■ Typical Switching Characteristics (Common Emitter)

V _{CC} (V)	R _L (Ω)	I _C (A)	V _{B2} (V)	I _{B1} (mA)	I _{B2} (mA)	t _{on} (μs)	t _{s1g} (μs)	t _f (μs)
100	100	1.0	-5	100	-200	0.3typ	4.0typ	1.0typ

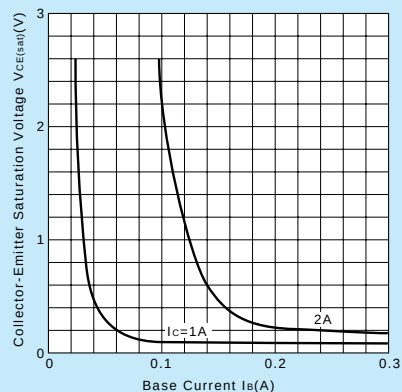
External Dimensions MT-25(TO220)



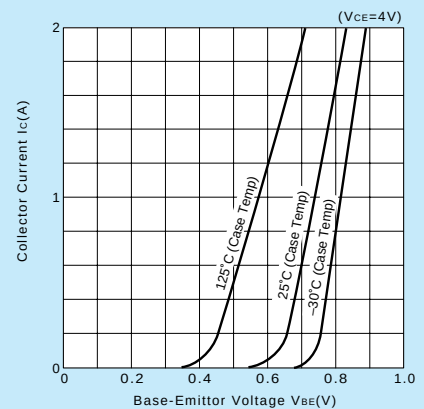
I_C - V_{CE} Characteristics (Typical)



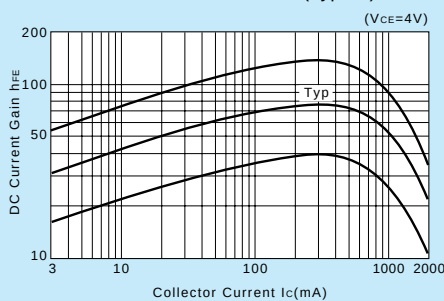
V_{CE(sat)}-I_B Characteristics (Typical)



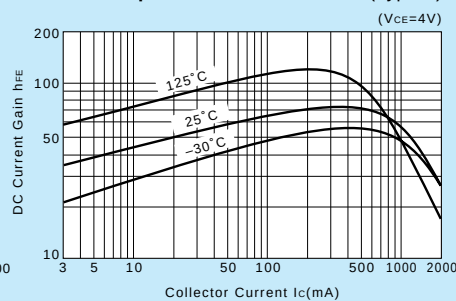
I_C-V_{BE} Temperature Characteristics (Typical)



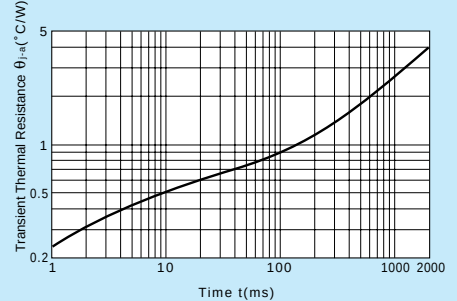
$h_{FE}-I_C$ Characteristics (Typical)



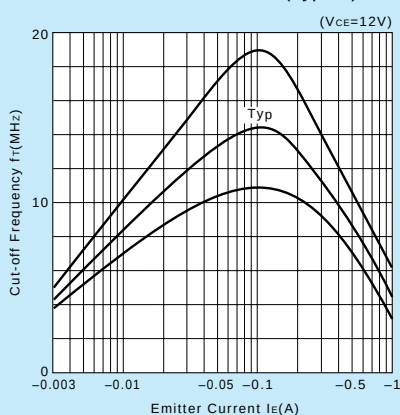
h_{FE} - I_C Temperature Characteristics (Typical)



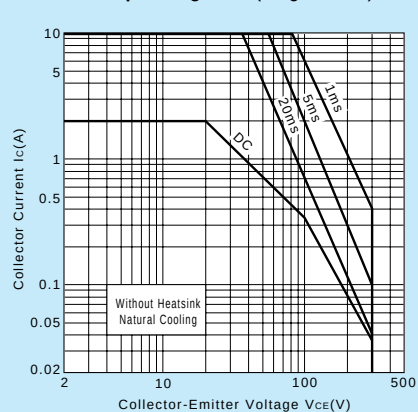
θ_{j-a-t} Characteristics



f_T-I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc-Ta Derating

