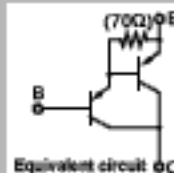


2SB1686



Silicon PNP Epitaxial Planar Transistor (Complement to type 2SD2642)

Application : Audio, Series Regulator and General Purpose

■ Absolute maximum ratings (Ta=25°C)

Symbol	Rating	Unit
V _{ceo}	-110	V
V _{ceo}	-110	V
V _{zco}	-5	V
I _o	-6	A
I _a	-1	A
P _o	30(T _c =25°C)	W
T _j	150	°C
T _{stg}	-55 to +150	°C

■ Electrical Characteristics (Ta=25°C)

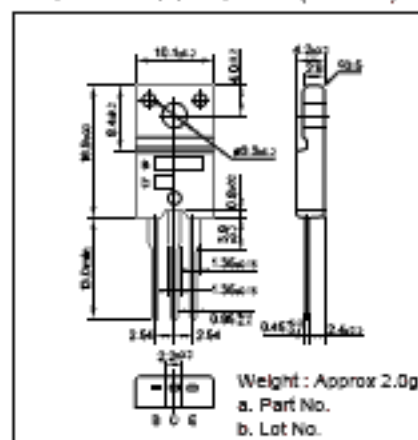
Symbol	Conditions	Ratings	Unit
I_{BQ}	$V_{DS} = -110V$	-100max	μA
I_{BQ}	$V_{DS} = -5V$	-100max	μA
$V_{DS(QBQ)}$	$I_C = -30mA$	-110min	V
f_{TQ}	$V_{DS} = -4V, I_C = -5A$	5000min*	
$V_{DS(sat)}$	$I_C = -5A, I_B = -5mA$	-2.5max	V
$V_{CE(sat)}$	$I_C = -5A, I_B = -5mA$	-3.0max	V
f_T	$V_{DS} = -12V, I_C = 0.5A$	100typ	MHz
C_{DS}	$V_{DS} = -10V, f = 1MHz$	110typ	pF

*this Rank: O(5000 to 12000), P(16500 to 20000), Y(15000 to 30000)

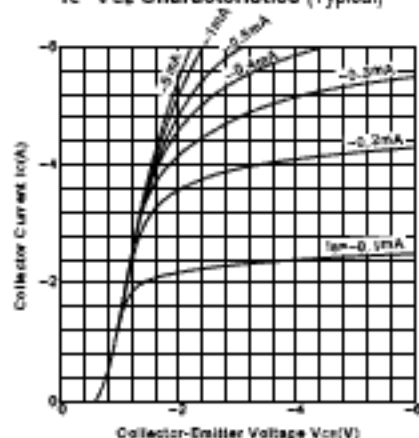
■ Typical Switching Characteristics (Common Emitter)

V _{CC} (V)	R _L (Ω)	I _C (A)	V _{CE(sat)} (V)	V _{CE2} (V)	I _{B1} (mA)	I _{B2} (mA)	t _{ON} (μ s)	t _{sig} (μ s)	t _f (μ s)
-30	6	-5	-10	5	-5	5	1.1nps	3.2nps	1.1nps

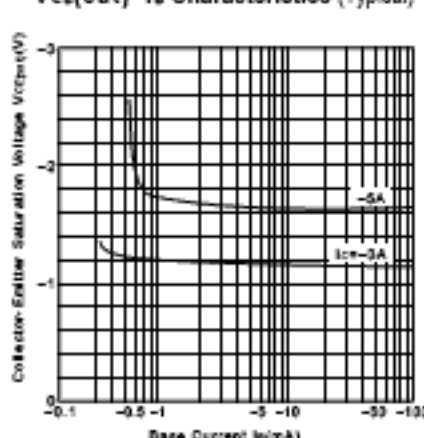
External Dimensions FM20(TO220F)



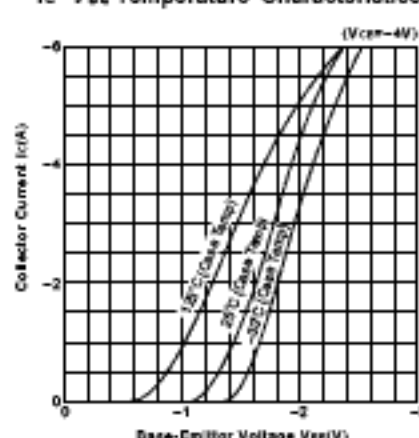
I_C-V_{CE} Characteristics (Typical)



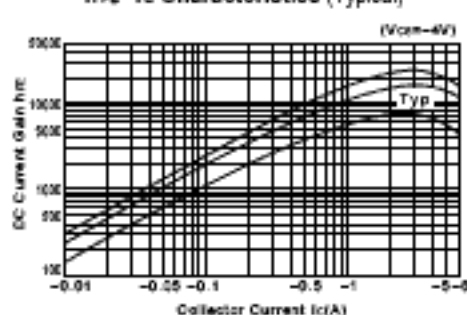
V_{CE(sat)}-I_B Characteristics (Typical)



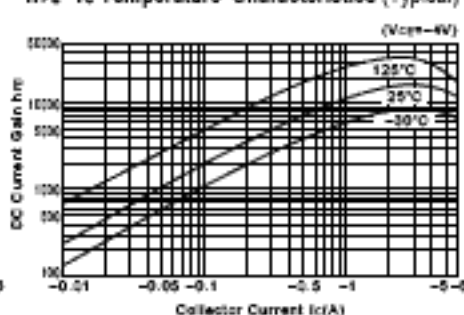
IC-V_{DS} Temperature Characteristics (Typical)



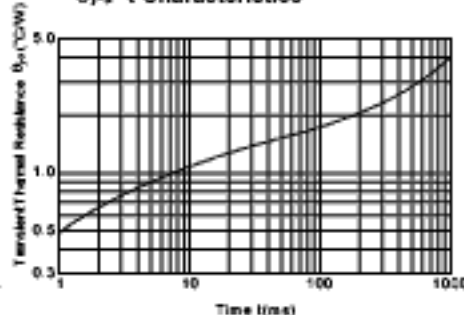
I_{FE-IO} Characteristics (Typical)



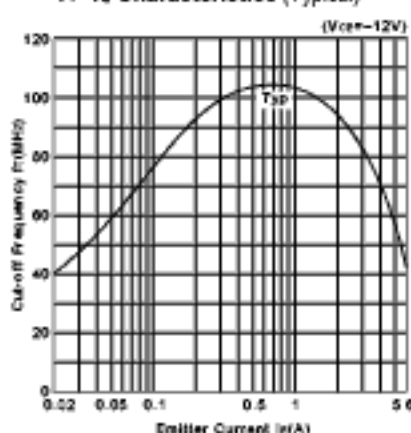
$h_{FE}-I_C$ Temperature Characteristics (Typical)



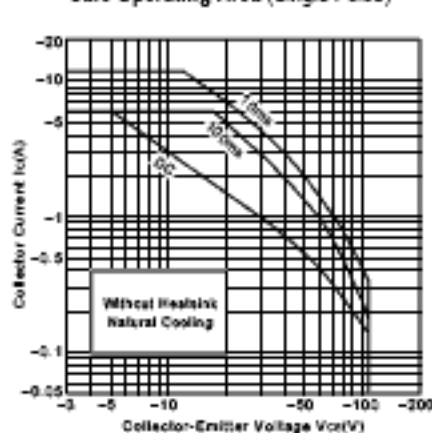
$\theta_{j-s}-t$ Characteristics



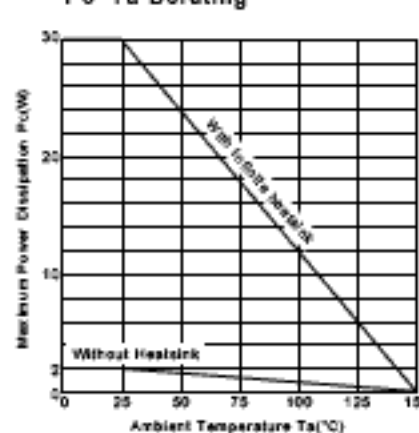
f_T-I_C Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc-Ta Derating



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