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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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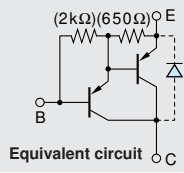
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# Darlington

# 2SB1257



Silicon PNP Epitaxial Planar Transistor (Complement to type 2SD2014)

Application : Driver for Solenoid, Relay and Motor and General Purpose

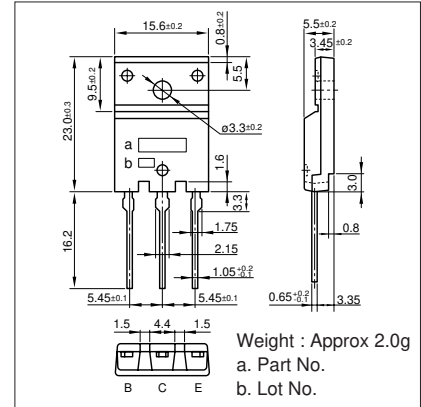
■Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V <sub>CB0</sub>	-60	V
V <sub>CEO</sub>	-60	V
V <sub>EB0</sub>	-6	V
I <sub>c</sub>	-4 (Pulse-6)	A
I <sub>B</sub>	-1	A
P <sub>c</sub>	25 (T <sub>c</sub> =25°C)	W
T <sub>j</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

■Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings	Unit
I <sub>CB0</sub>	V <sub>CB</sub> =-60V	-10max	μA
I <sub>EB0</sub>	V <sub>EB</sub> =-6V	-10max	μA
V <sub>(BR)CEO</sub>	I <sub>c</sub> =-10mA	-60min	V
h <sub>FE</sub>	V <sub>CE</sub> =-4V, I <sub>c</sub> =-3A	2000min	
V <sub>CE(sat)</sub>	I <sub>c</sub> =-3A, I <sub>B</sub> =-6mA	-1.5max	V
V <sub>BE(sat)</sub>	I <sub>c</sub> =-3A, I <sub>B</sub> =-6mA	-2max	V
f <sub>r</sub>	V <sub>CE</sub> =-12V, I <sub>E</sub> =0.2A	150typ	MHz
COB	V <sub>CB</sub> =-10V, f=1MHz	75typ	pF

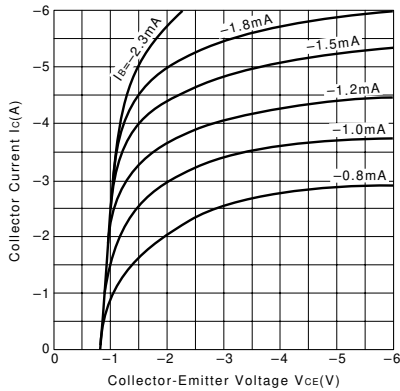
External Dimensions FM20(TO220F)



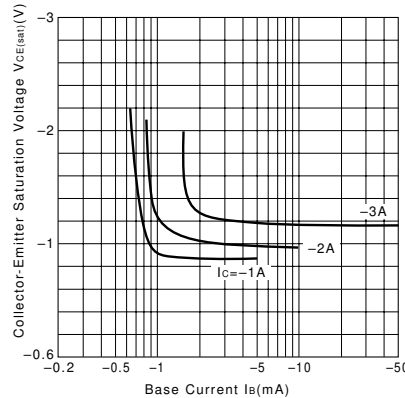
■Typical Switching Characteristics (Common Emitter)

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>c</sub> (A)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	I <sub>B1</sub> (mA)	I <sub>B2</sub> (mA)	t <sub>on</sub> (μs)	t <sub>stg</sub> (μs)	t <sub>f</sub> (μs)
-30	10	-3	-10	5	-10	10	0.4typ	0.8typ	0.6typ

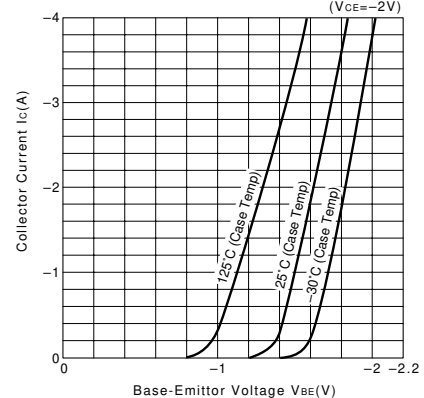
I<sub>c</sub>-V<sub>CE</sub> Characteristics (Typical)



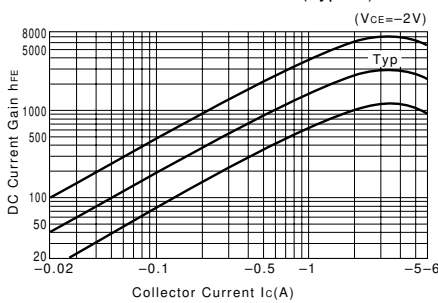
V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)



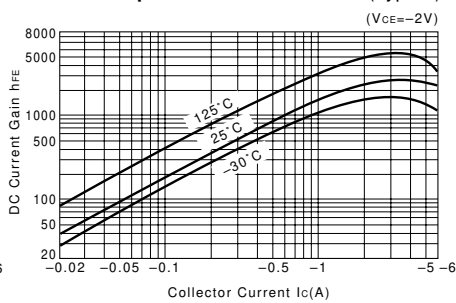
I<sub>c</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



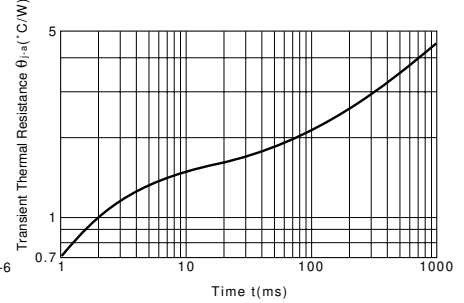
h<sub>FE</sub>-I<sub>c</sub> Characteristics (Typical)



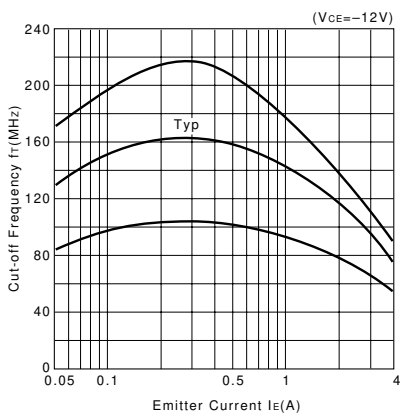
h<sub>FE</sub>-I<sub>c</sub> Temperature Characteristics (Typical)



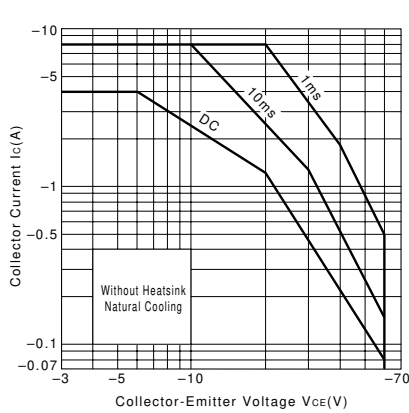
θ<sub>j-a</sub>-t Characteristics



f<sub>r</sub>-I<sub>E</sub> Characteristics (Typical)



Safe Operating Area (Single Pulse)



P<sub>c</sub>-T<sub>a</sub> Derating

