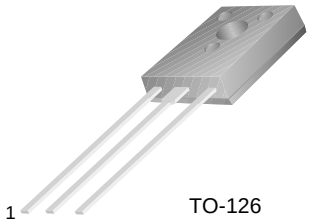
FAIRCHILD SEMICONDUCTOR®

January 2011

KSC5026M
NPN Silicon Transistor

Features

- High Voltage and High Reliability
- High Speed Switching
- Wide SOA



TO-126

1. Emitter 2.Collector 3.Base

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	1100	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	1.5	A
I_{CP}	Collector Current (Pulse)	5	A
I_B	Base Current	0.8	A
P_C	Collector Dissipation (T_C=25°C)	20	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 to 150	°C

Package Marking and Ordering Information

Part Number	Marking	Package	Packing Method	Remarks
KSC5026MOS*	C5026M-O	TO-126	BULK	

* The suffix "M" & "S" of FSID denotes TO126 package and the suffix "O" of FSID denotes h_{FE}-class

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 1mA, I_E = 0	1100			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	800			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	7			V
V_{CEX}(sus)	Collector-Emitter Sustaining Voltage	I_C = 0.75A, I_{B1} = -I_{B2} = 0.15A, L = 5mH, Clamped	800			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 800V, I_E = 0			10	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0			10	μA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = 5V, I_C = 0.1A V_{CE} = 5V, I_C = 0.5A	10 8		40	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 0.75A, I_B = 0.15A			2	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 0.75A, I_B = 0.15A			1.5	V
C_{ob}	Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz		35		pF
f_T	Current Gain Bandwidth Product	V_{CE} = 10V, I_C = 0.1A		15		MHz
t_{ON}	Turn On Time	V_{CC} = 400V I_C = 5I_{B1} = -2.5I_{B2} = 1A R_L = 400Ω			0.5	μs
t_{STG}	Storage Time				3	μs
t_F	Fall Time				0.3	μs

h_{FE} Classification

Classification	N	R	O
h_{FE1}	10 ~ 20	15 ~ 30	20 ~ 40

Typical Performance Characteristics

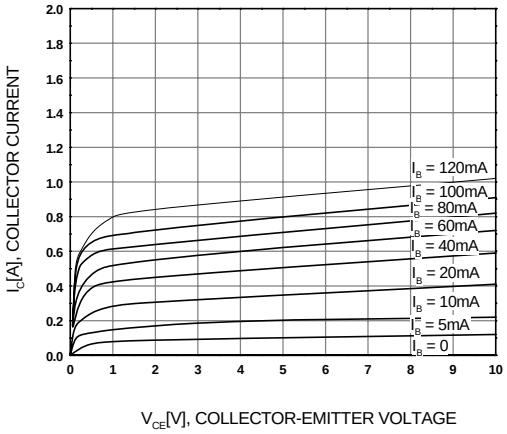


Figure 1. Static Characteristic

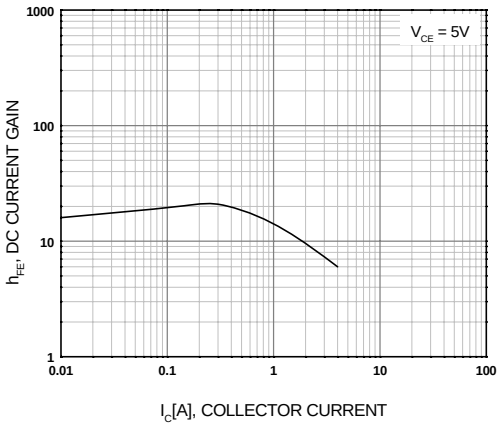


Figure 2. DC current Gain

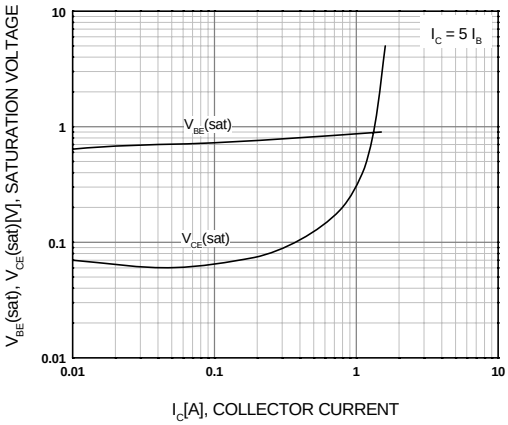


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

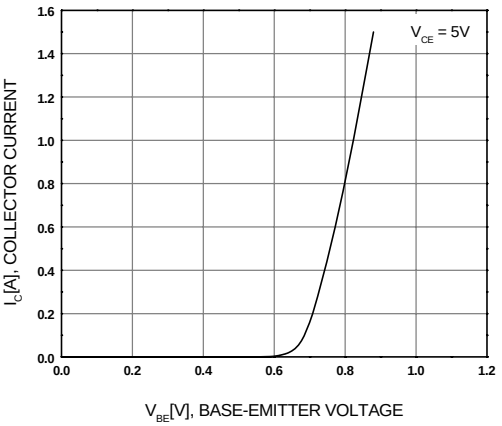


Figure 4. Base-Emitter On Voltage

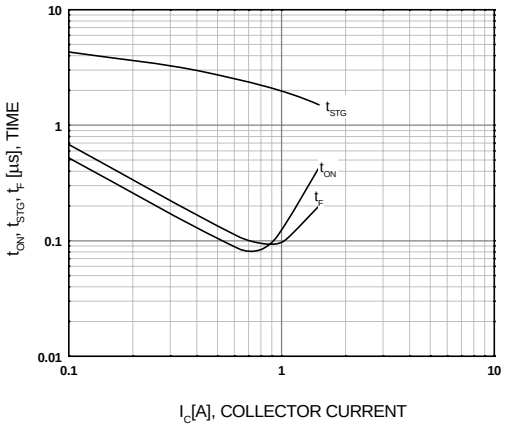


Figure 5. Switching Time

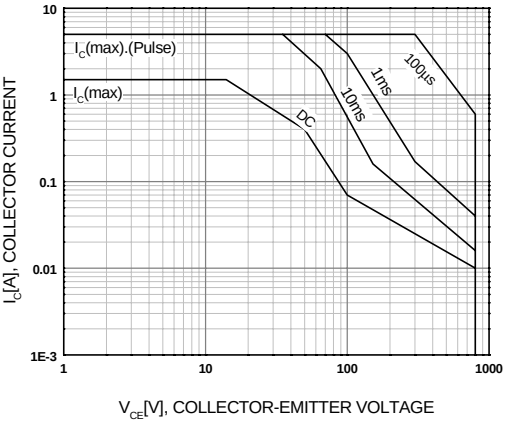


Figure 6. Safe Operating Area

Typical Performance Characteristics (Continued)

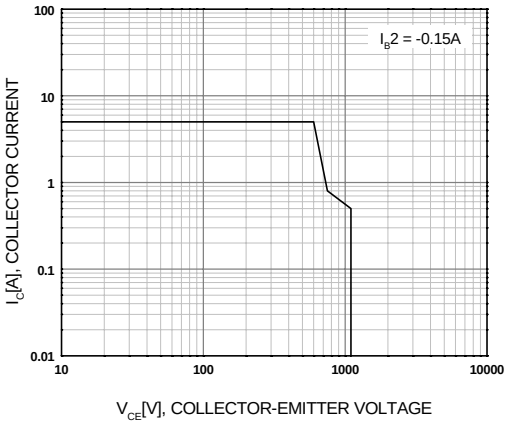


Figure 7. Reverse Bias Safe Operating Area

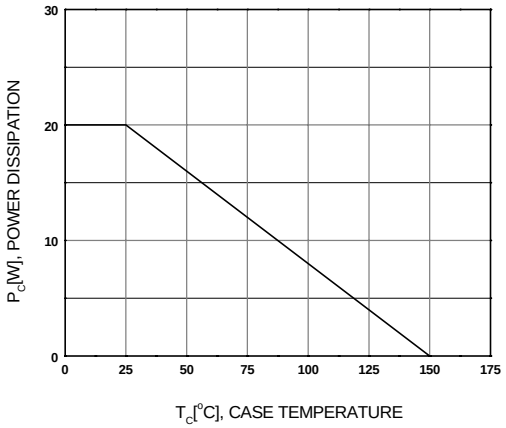
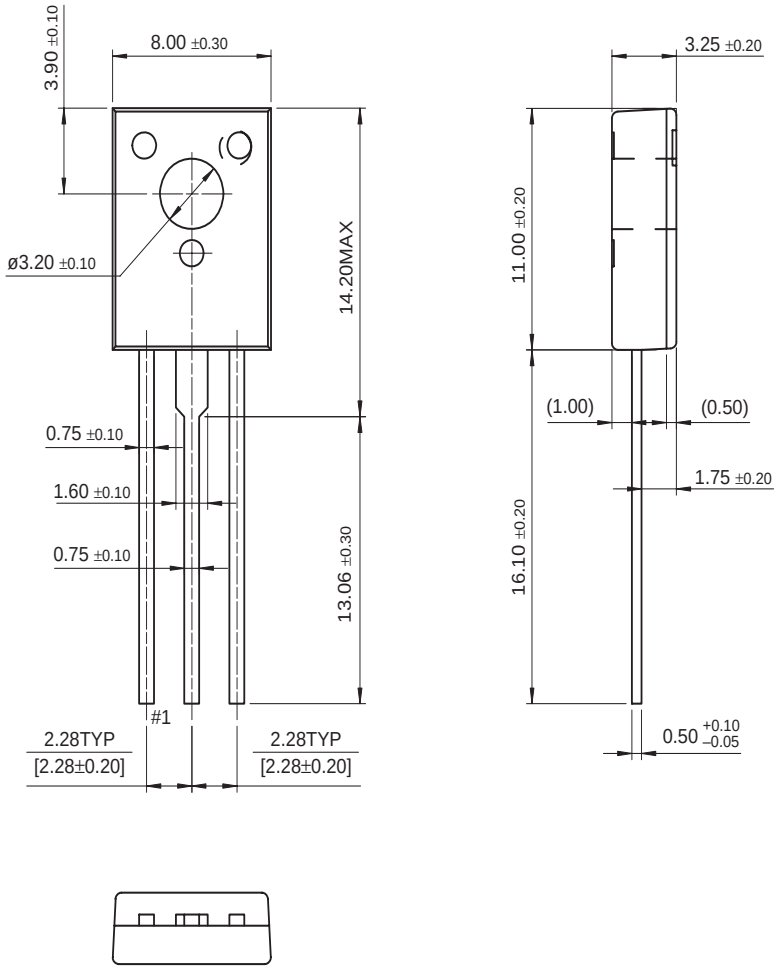


Figure 8. Power Derating

Physical Dimension

TO-126



Dimensions in Millimeters

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