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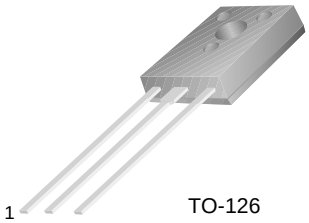
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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

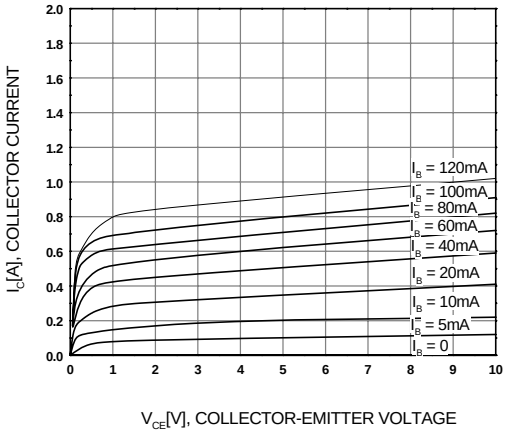


Figure 1. Static Characteristic

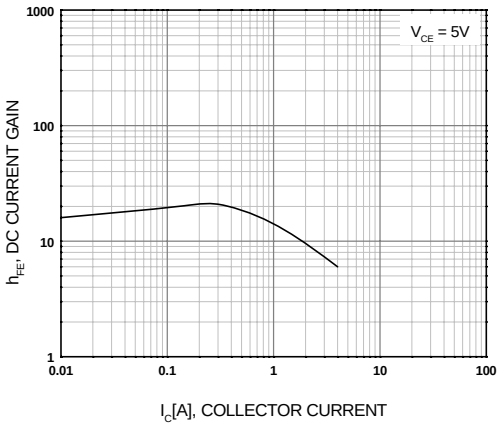


Figure 2. DC current Gain

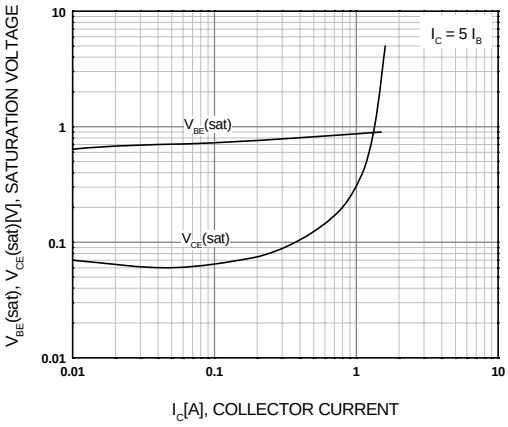


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

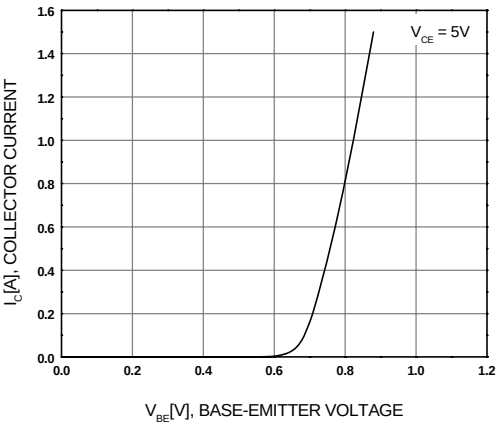


Figure 4. Base-Emitter On Voltage

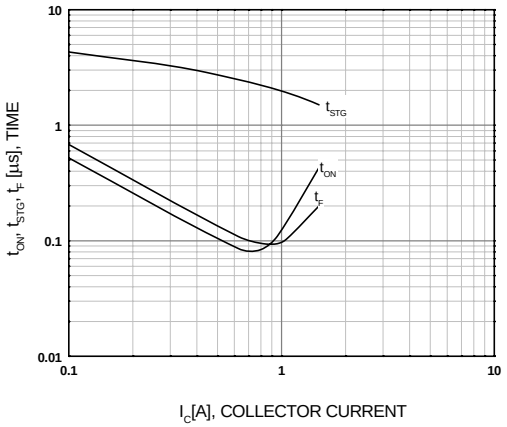


Figure 5. Switching Time

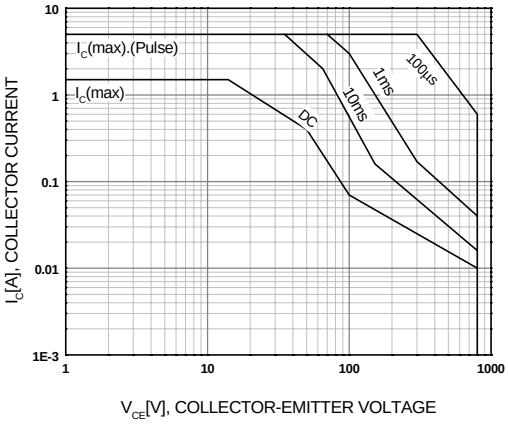


Figure 6. Safe Operating Area

Typical Performance Characteristics (Continued)

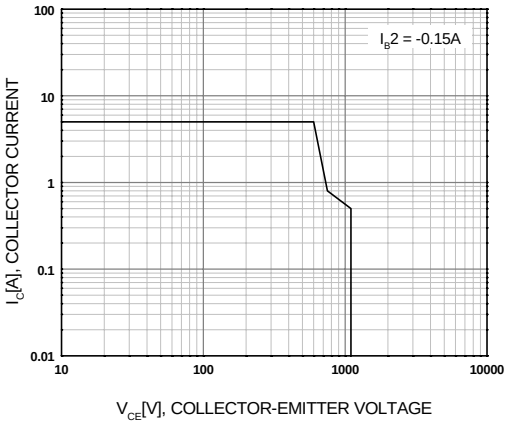


Figure 7. Reverse Bias Safe Operating Area

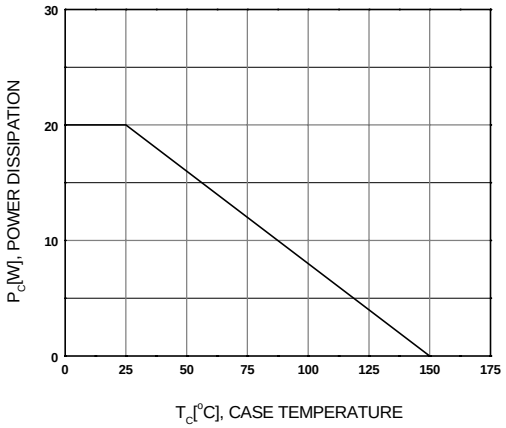
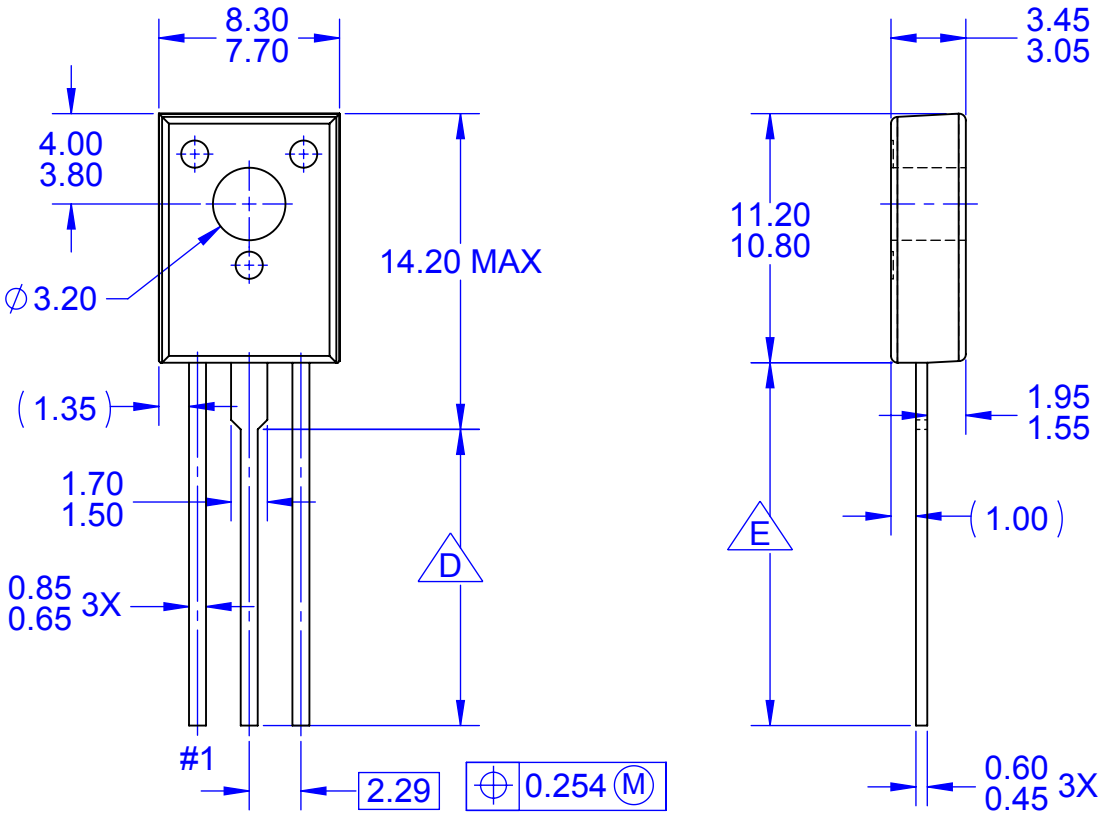
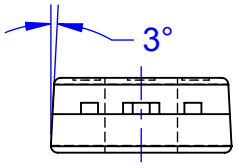


Figure 8. Power Derating





PRODUCTION CODE	TERMINAL LENGTH "D"	TERMINAL LENGTH "E"
TSSTU	3.45 - 4.05	6.45-7.45
TSTU	2.36 - 2.96	5.36-6.36
NONE (STD LENGTH)	12.76 - 13.36	15.76-16.76

NOTES:

A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
B. ALL DIMENSIONS ARE IN MILLIMETERS
C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

△D FOR TERMINAL LENGTH "D", REFER TO TABLE

△E FOR TERMINAL LENGTH "E", REFER TO TABLE

F. DRAWING FILENAME: MKT-TO126AArev2

FAIRCHILD ™

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