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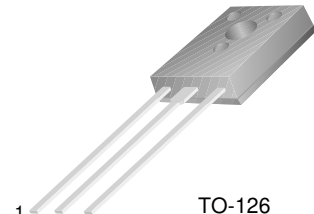
January 2011

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 $T_A = 25^\circ\text{C}$ 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 ($T_C=25^\circ\text{C}$)	20	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 to 150	$^\circ\text{C}$

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

KSC5026M — NPN Silicon Transistor

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

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

 h_{FE} Classification

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

Typical Performance Characteristics

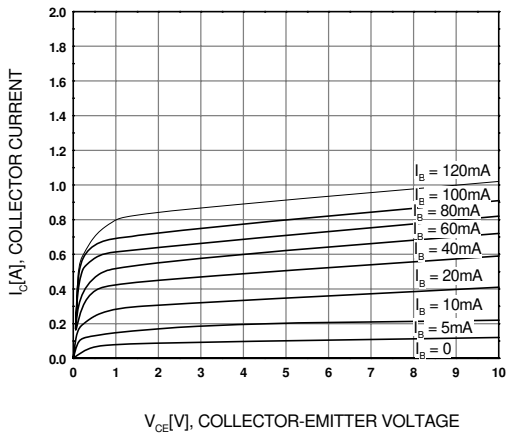


Figure 1. Static Characteristic

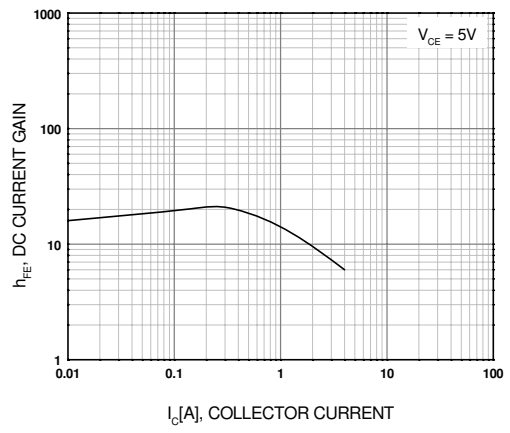


Figure 2. DC current Gain

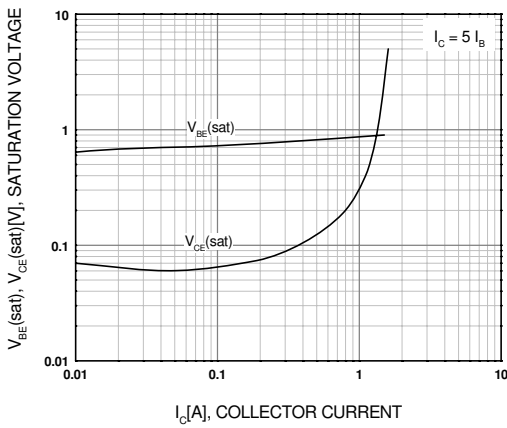


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

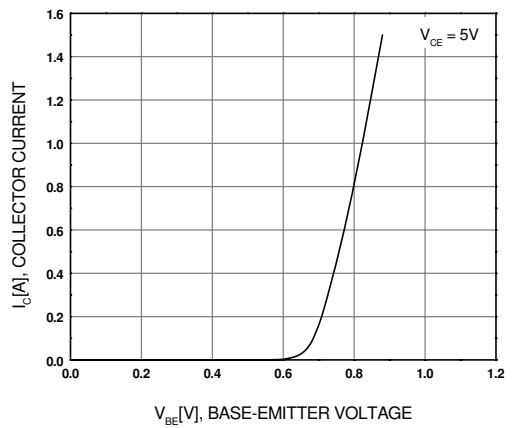


Figure 4. Base-Emitter On Voltage

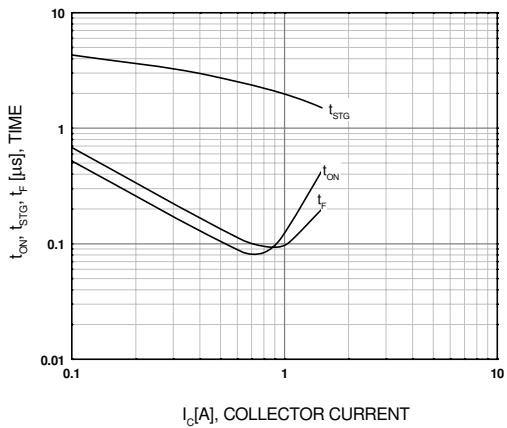


Figure 5. Switching Time

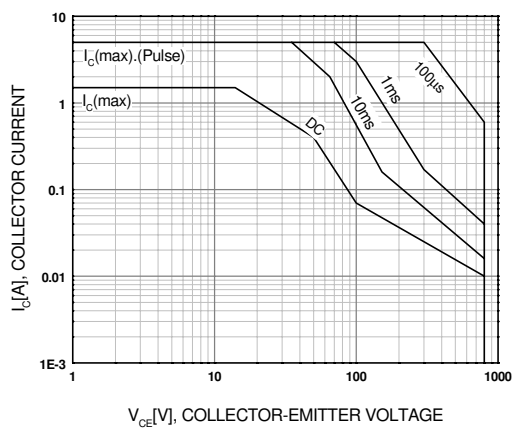


Figure 6. Safe Operating Area

Typical Performance Characteristics

(Continued)

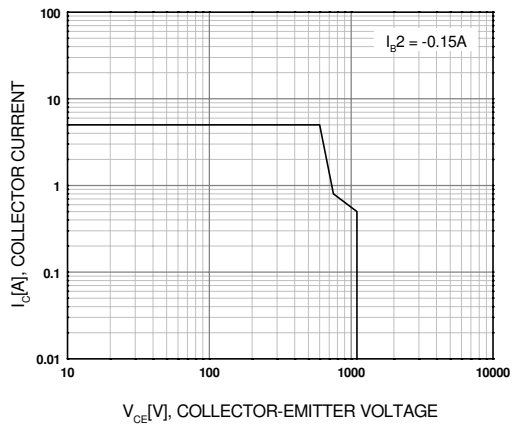


Figure 7. Reverse Bias Safe Operating Area

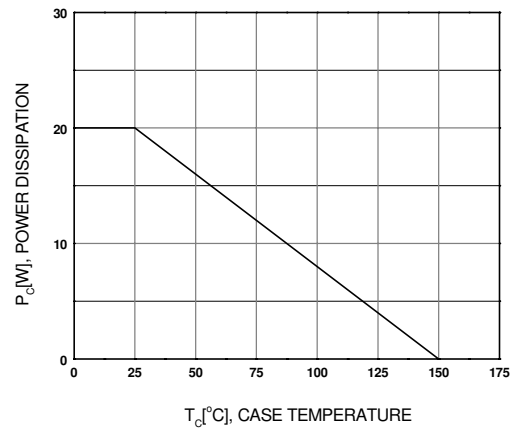
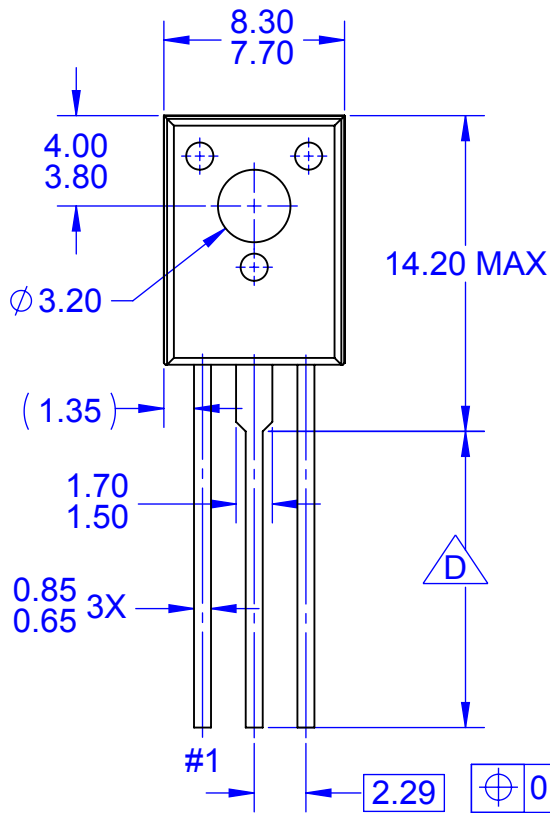
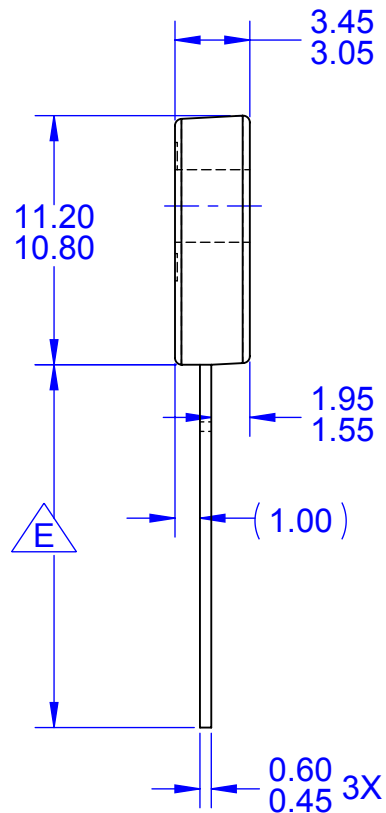


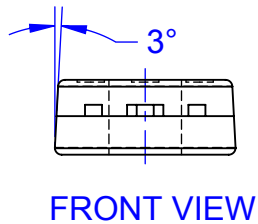
Figure 8. Power Derating



TOP VIEW



SIDE VIEW



FRONT VIEW

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

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- B. ALL DIMENSIONS ARE IN MILLIMETERS
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

 FOR TERMINAL LENGTH "D", REFER TO TABLE

 FOR TERMINAL LENGTH "E", REFER TO TABLE

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