

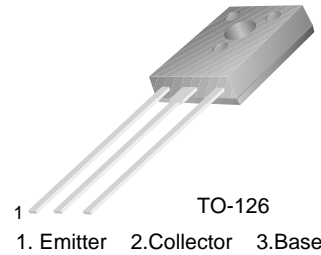


# KSC5026M

## NPN Silicon Transistor

### Features

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



### 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

**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	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			10	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	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	$\mu\text{s}$
$t_{STG}$	Storage Time	$I_C = 5I_{B1} = -2.5I_{B2} = 1\text{A}$			3	$\mu\text{s}$
$t_F$	Fall Time	$R_L = 400\Omega$			0.3	$\mu\text{s}$

 **$h_{FE}$  Classification**

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

Typical Performance Characteristics

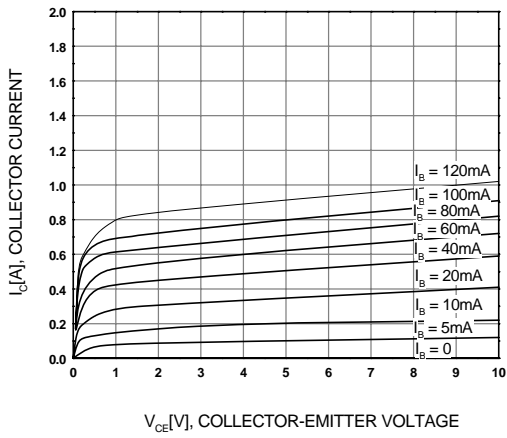


Figure 1. Static Characteristic

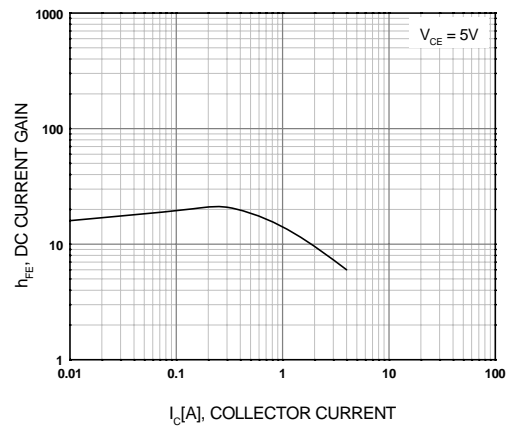


Figure 2. DC current Gain

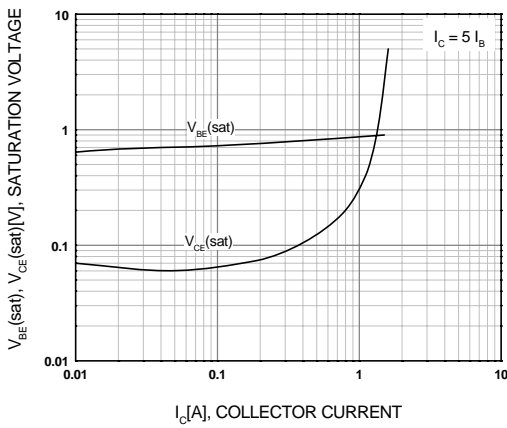


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

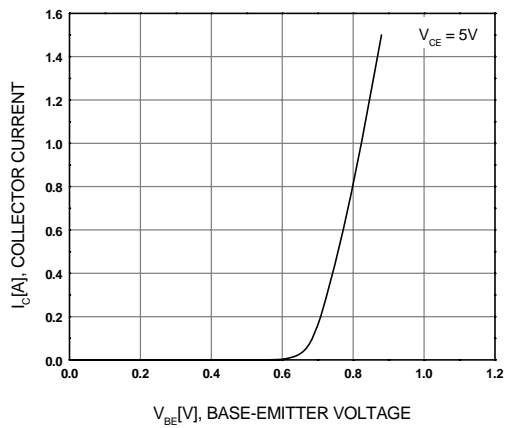


Figure 4. Base-Emitter On Voltage

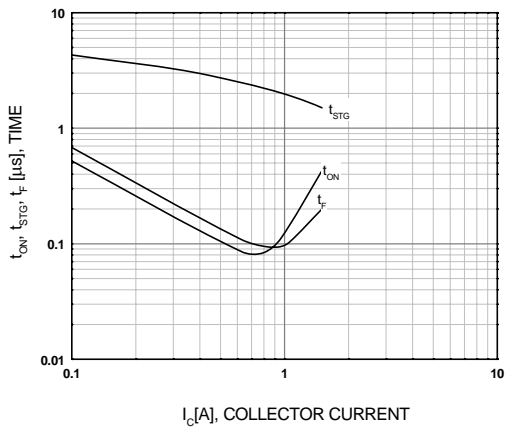


Figure 5. Switching Time

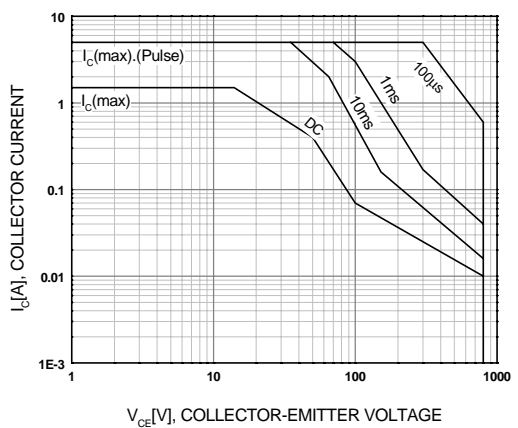


Figure 6. Safe Operating Area

Typical Performance Characteristics

(Continued)

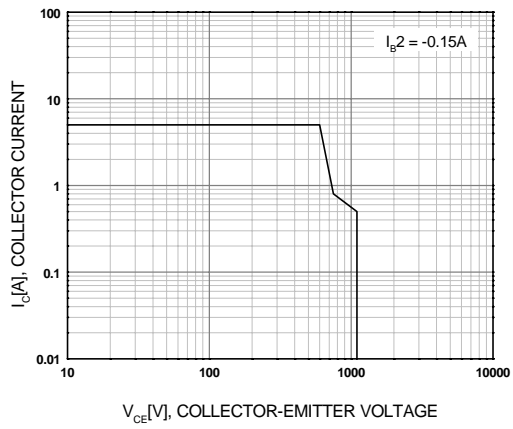


Figure 7. Reverse Bias Safe Operating Area

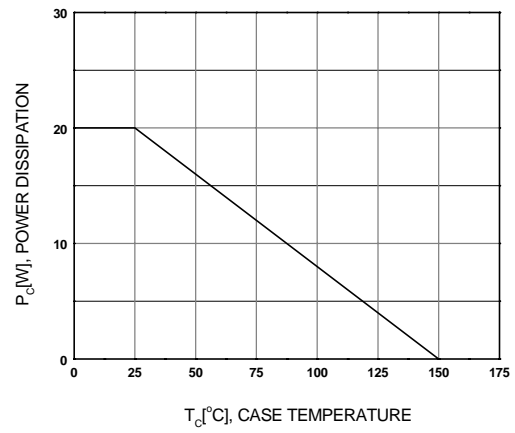
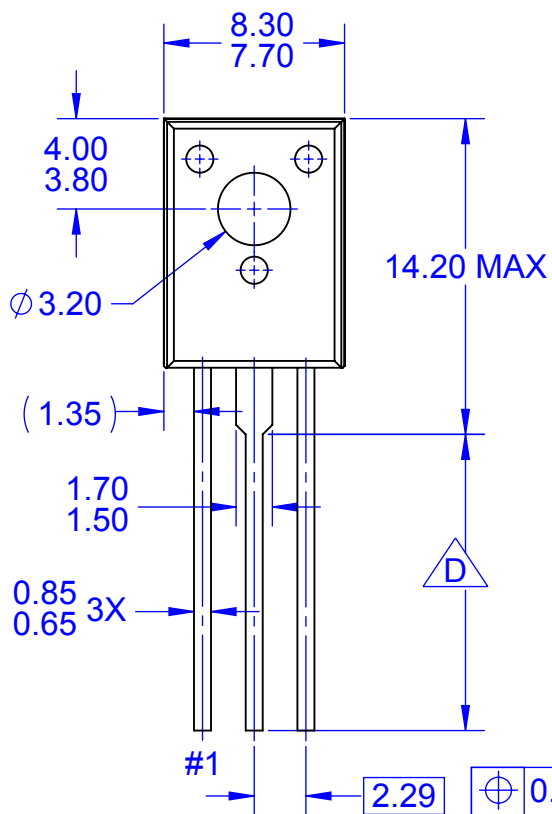
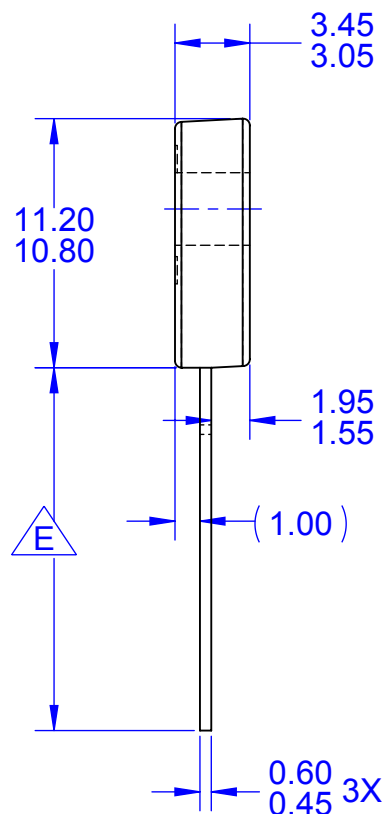


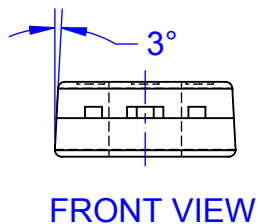
Figure 8. Power Derating



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

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

 FOR TERMINAL LENGTH "D", REFER TO TABLE

 FOR TERMINAL LENGTH "E", REFER TO TABLE

F. DRAWING FILENAME: MKT-TO126AArev2



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