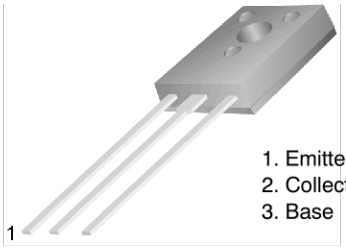
NPN Silicon Transistor
KSC5026M



TO−126−3LD
CASE 340AS

Features

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

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
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

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

MARKING DIAGRAM

&3 = Date Code (Year & Week)
C5026M = Specific Device Code
O = h_{FE} Grade

ORDERING INFORMATION

Device	Package	Shipping
KSC5026MOS	TO−126−3 (Pb−Free)	2000 Units / Bulk Bag

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

h_{FE} CLASSIFICATION

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

TYPICAL CHARACTERISTICS

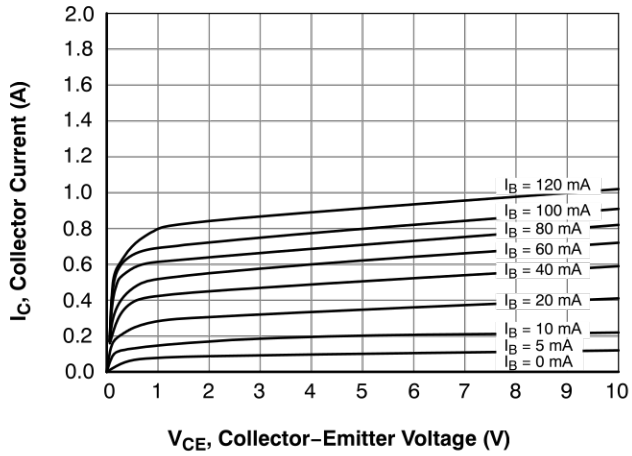

Figure 1. Static Characteristic

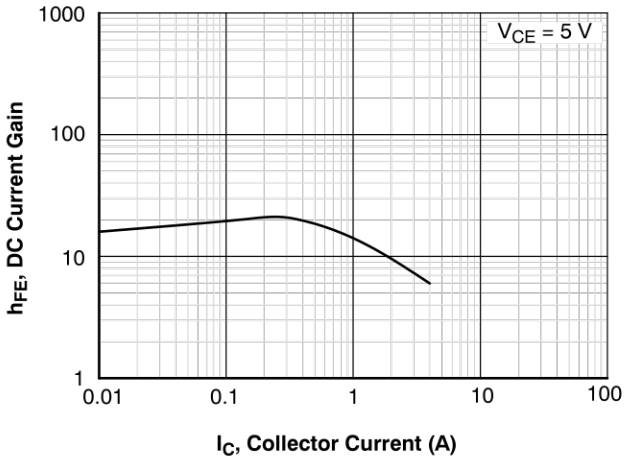

Figure 2. DC Current Gain

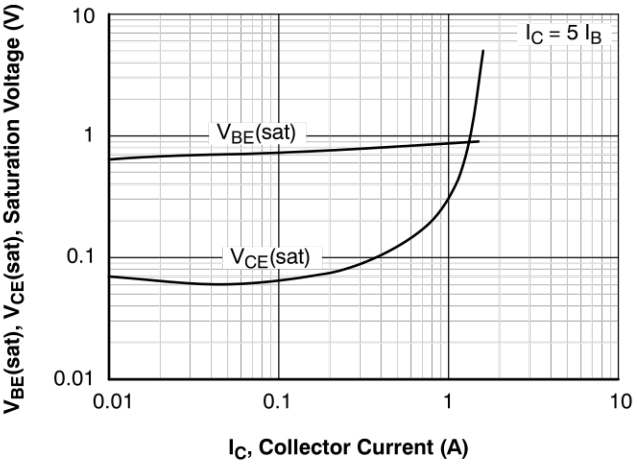

Figure 3. Base−Emitter Saturation Voltage Collector−Emitter Saturation Voltage

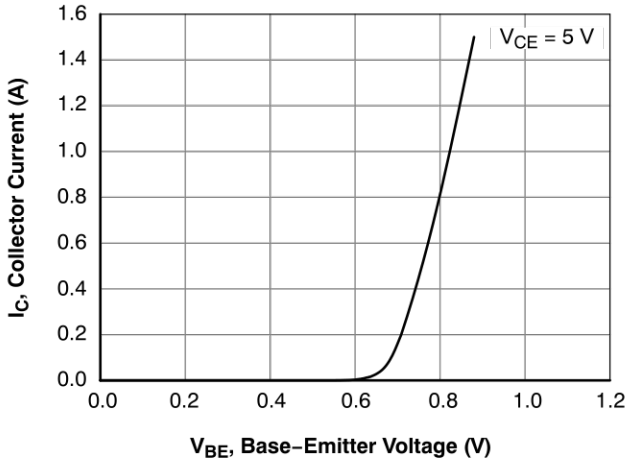

Figure 4. Base−Emitter On Voltage

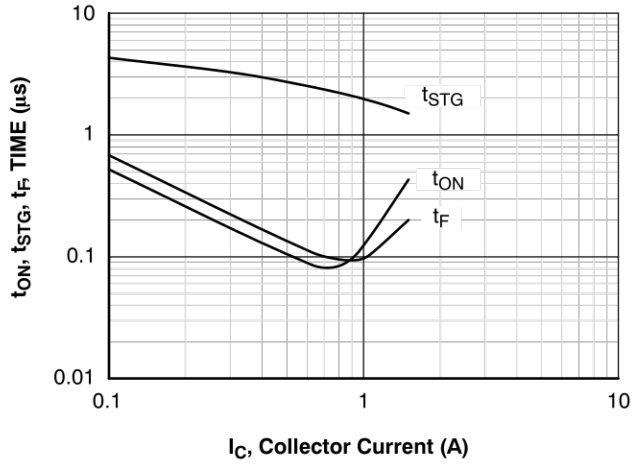

Figure 5. Switching Time

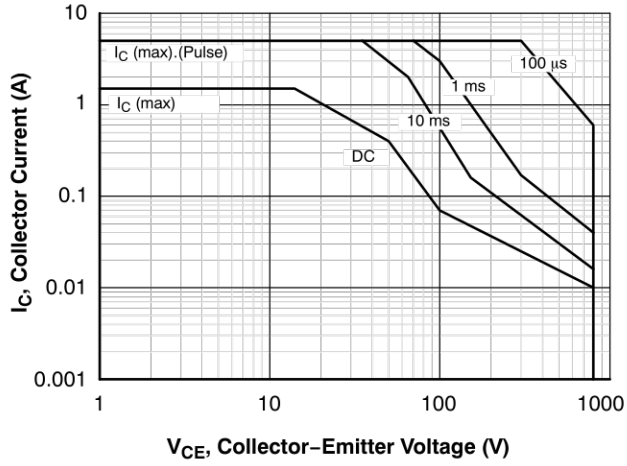

Figure 6. Safe Operating Area

TYPICAL CHARACTERISTICS (Continued)

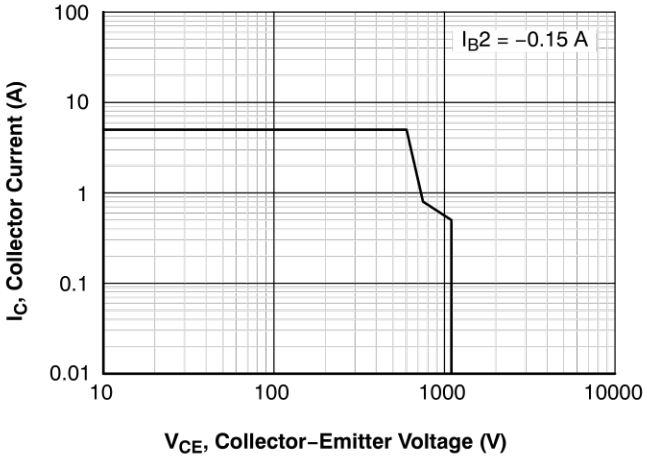

Figure 7. Reverse Bias Safe Operating Area

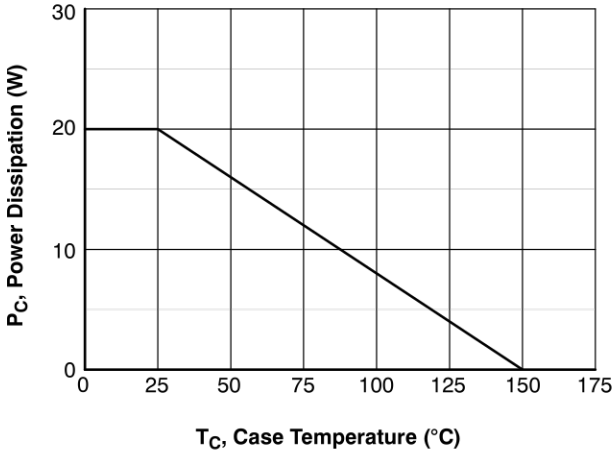

Figure 8. Power Derating

TO−126−3LD
CASE 340AS
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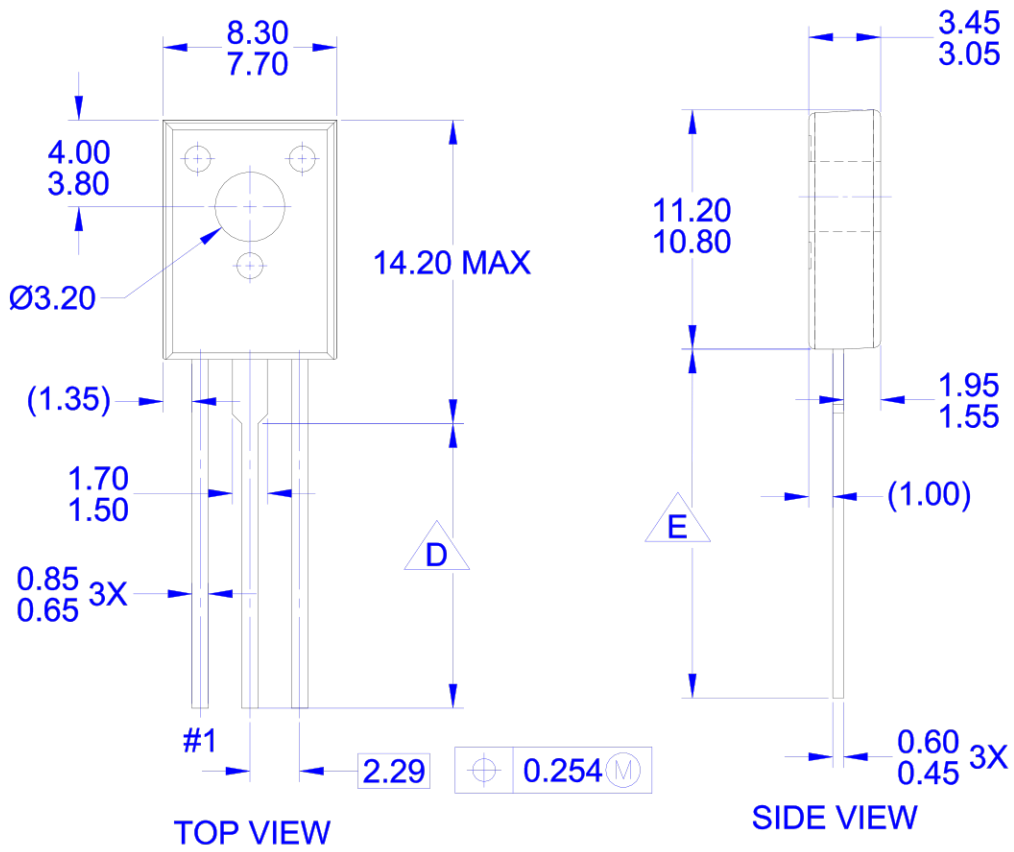

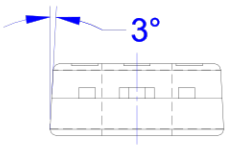

PRODUCTION CODE	TERMINAL LENGTH "D"	TERMINAL LENGTH "E"
TSSTU	3.45 - 4.05	6.45 - 7.45
TSTU	2.36 - 2.96	5.36 - 6.36
NONE (STD LENGTH)	12.76 - 13.36	15.76 - 16.76

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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

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