

NPN Silicon Transistor

KSC5026M

Features

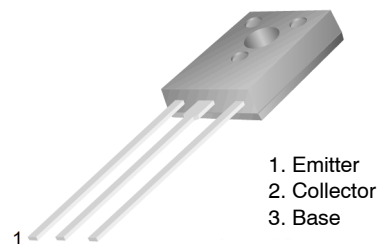
- High Voltage and High Reliability
- High Speed Switching
- Wide SOA

ABSOLUTE MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

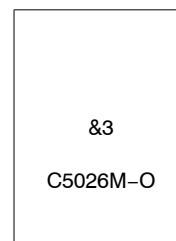
Symbol	Parameter	Value	Unit
V_{CBO}	Collector–Base Voltage	1100	V
V_{CEO}	Collector–Emitter Voltage	800	V
V_{EBO}	Emitter–Base Voltage	7	V
I_C	Collector Current (DC)	1.5	A
I_{CP}	Collector Current (Pulse)	5	A
I_B	Base Current	0.8	A
P_C	Collector Dissipation ($T_C = 25^\circ\text{C}$)	20	W
T_J	Junction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

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.



TO-126-3LD
CASE 340AS

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

KSC5026M

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

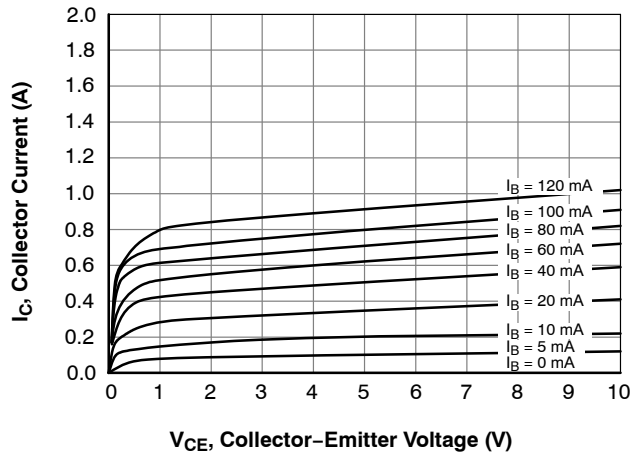


Figure 1. Static Characteristic

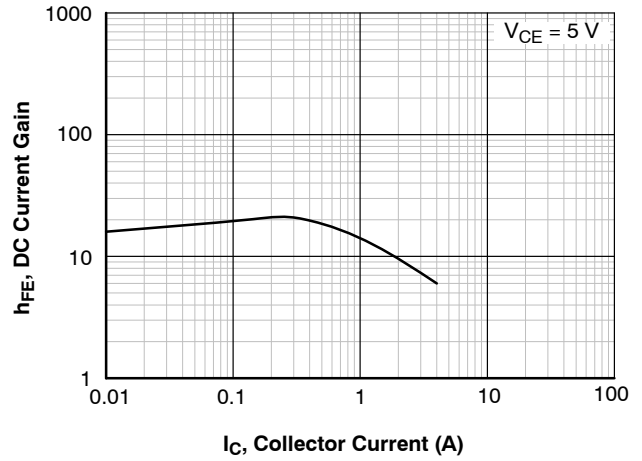


Figure 2. DC Current Gain

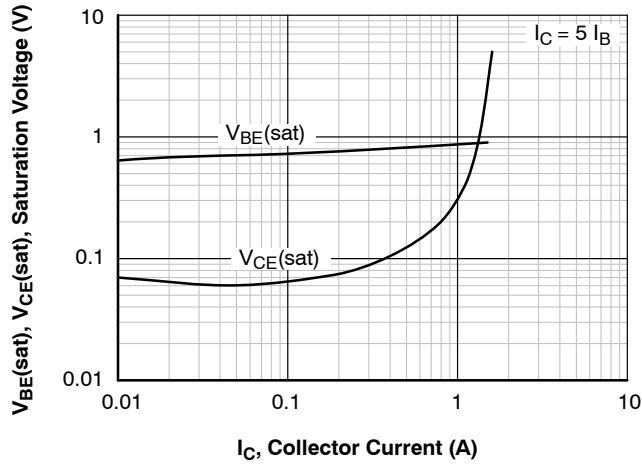
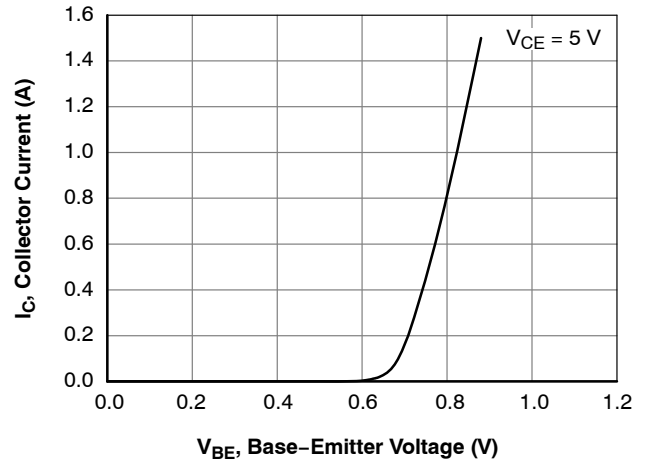
Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Figure 4. Base-Emitter On Voltage

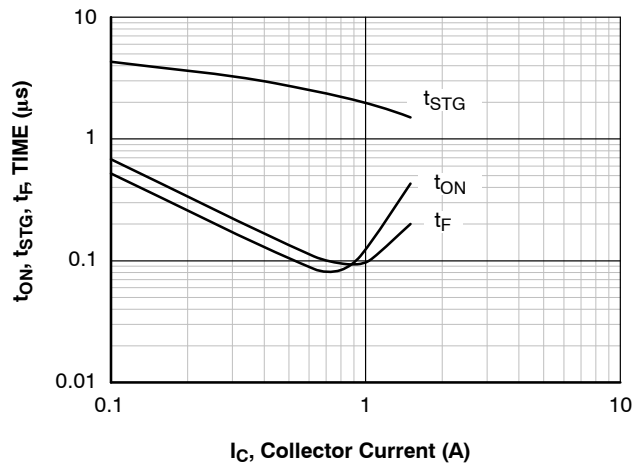


Figure 5. Switching Time

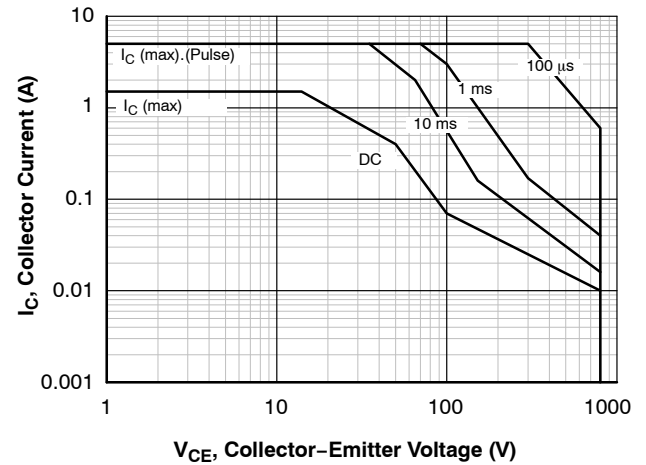


Figure 6. Safe Operating Area

TYPICAL CHARACTERISTICS (Continued)

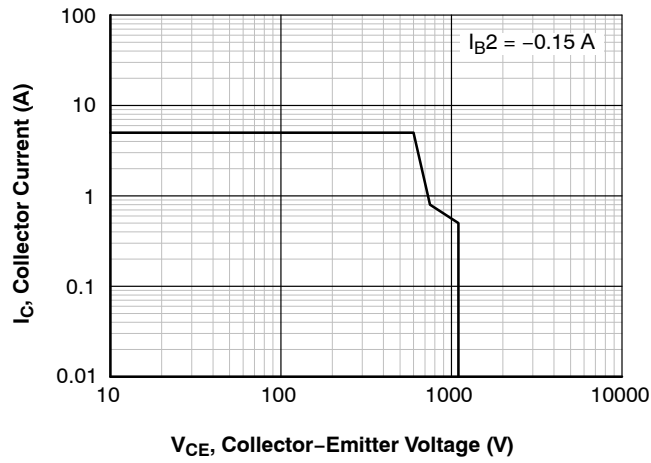


Figure 7. Reverse Bias Safe Operating Area

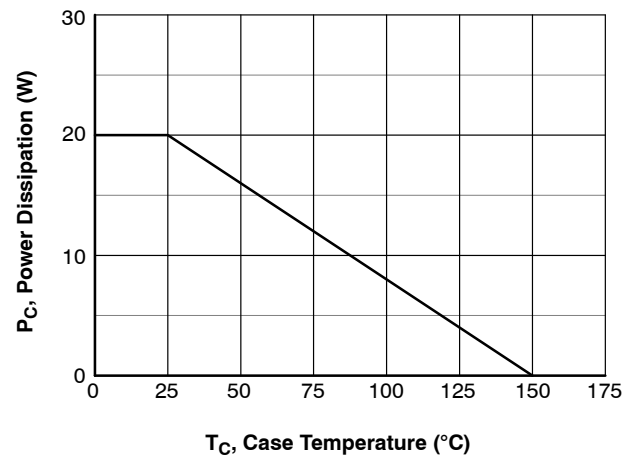
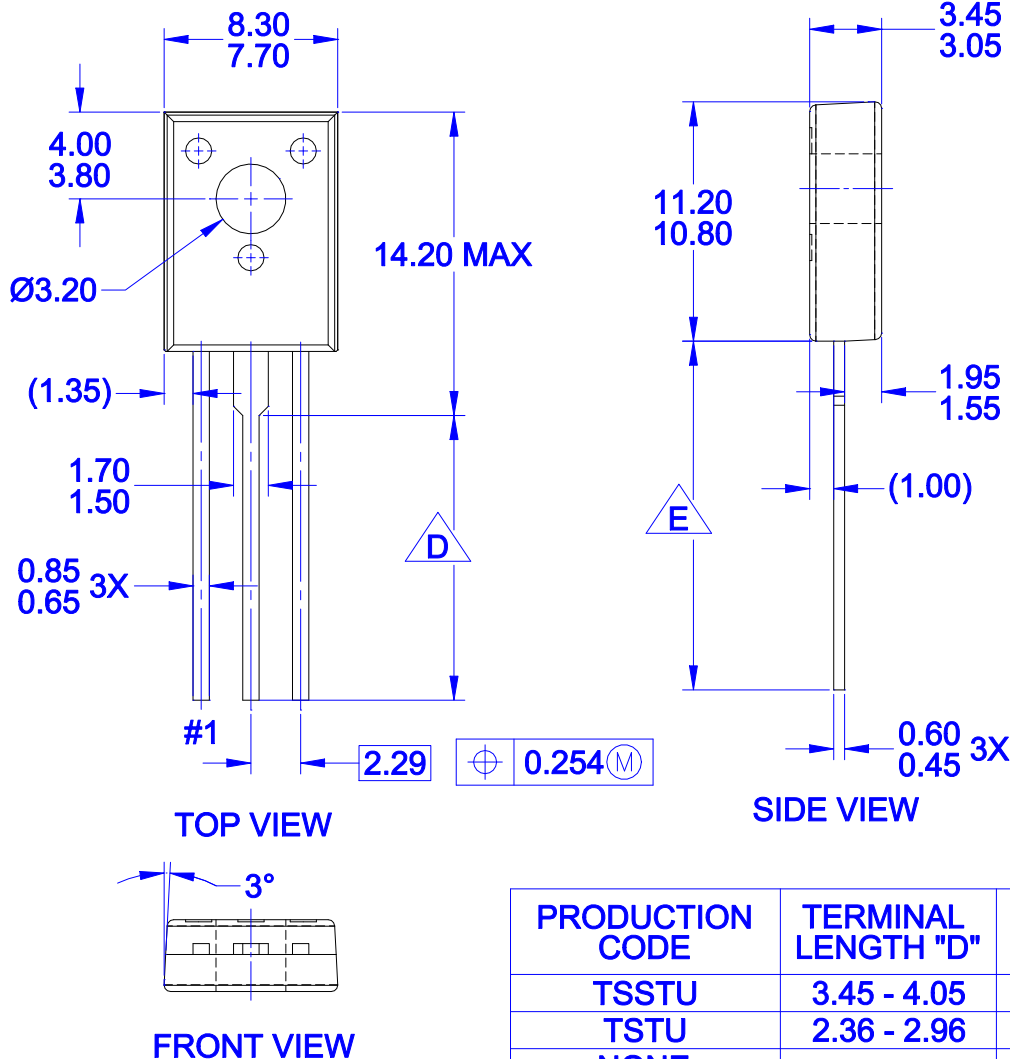


Figure 8. Power Derating

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ISSUE O

DATE 30 SEP 2016



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

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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