

NPN Epitaxial Silicon Darlington Transistor

KSE800

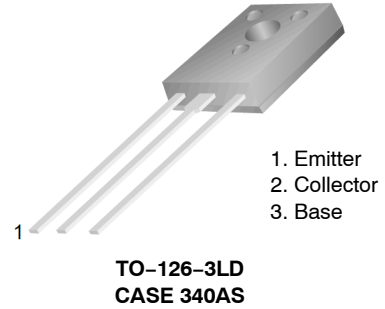
Features

- Monolithic Construction with Built-in Base-Emitter Resistors
- High DC Current Gain: $h_{FE} = 750$ (Min.) @ $I_C = 1.5$ and 2.0 A DC
- Complement to KSE700
- This is a Pb-Free Device

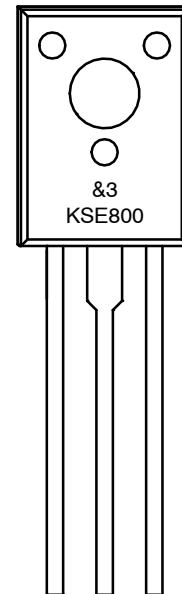
ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	4	A
I_B	Base Current	0.1	A
P_C	Collector Dissipation ($T_C = 25^\circ\text{C}$)	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 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.

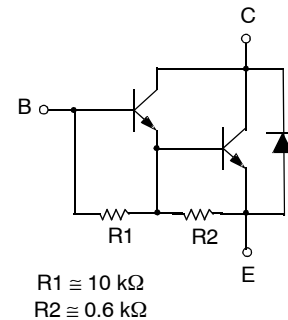


MARKING DIAGRAM



&3 = 3-Digit Date Code
KSE800 = Specific Device Code

EQUIVALENT CIRCUIT



ORDERING INFORMATION

Device	Package	Shipping
KSE800STU	TO-126-3LD (Pb-Free)	1920 Units / Tube

KSE800

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

Symbol	Parameter	Test Condition	Min	Max	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 50 mA, I _B = 0	60		V
I _{CEO}	Collector Cut-off Current	V _{CE} = 60 V, I _B = 0		100	μA
I _{CBO}	Collector Cut-off Current	V _{CB} = Rated BV _{CEO} , I _E = 0 V _{CB} = Rated BV _{CEO} , I _E = 0, T _C = 100°C		100 500	μA
I _{EBO}	Emitter Cut-off Current	V _{BE} = 5 V, I _C = 0		2	mA
h _{FE}	DC Current Gain	V _{CE} = 3 V, I _C = 1.5 A V _{CE} = 3 V, I _C = 4 A	750 100		
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1.5 A, I _B = 30 mA I _C = 4 A, I _B = 40 mA		2.5 3	V
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} = 3 V, I _C = 1.5 A V _{CE} = 3 V, I _C = 4 A		2.5 3	V

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.

TYPICAL CHARACTERISTICS

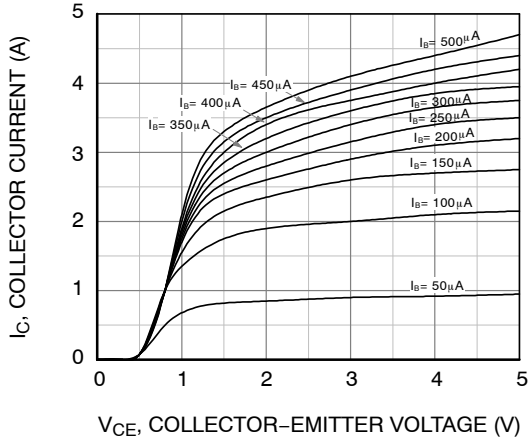


Figure 1. Static Characteristic

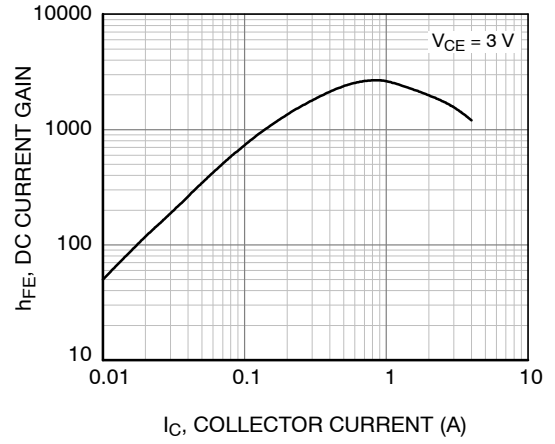


Figure 2. DC Current Gain

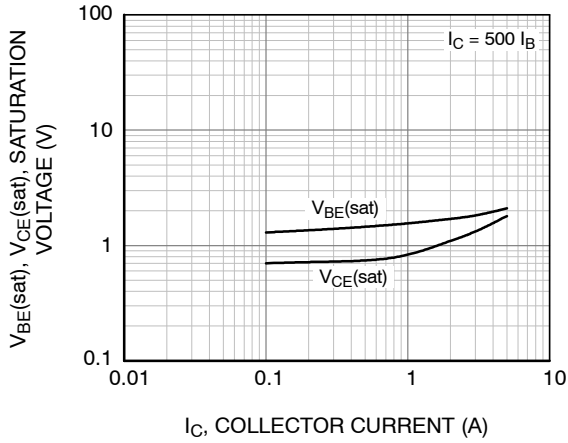


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

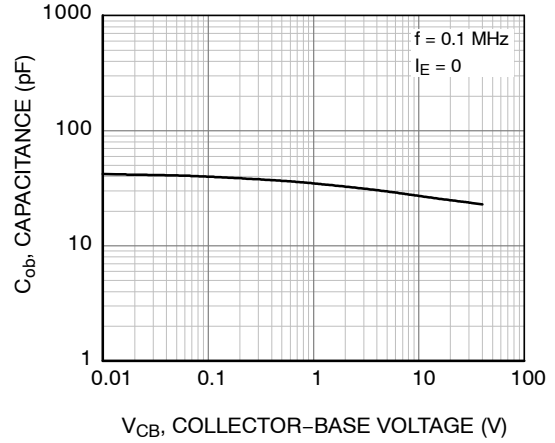


Figure 4. Collector Output Capacitance

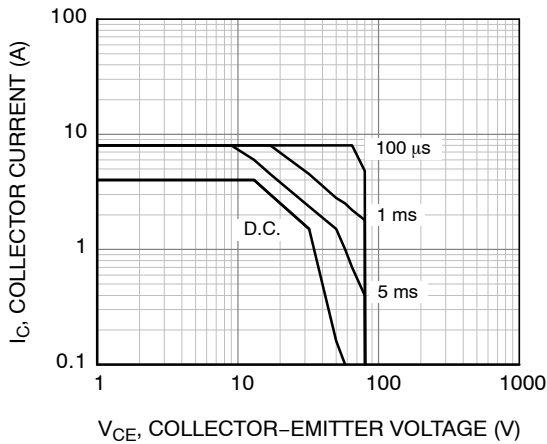


Figure 5. Safe Operating Area

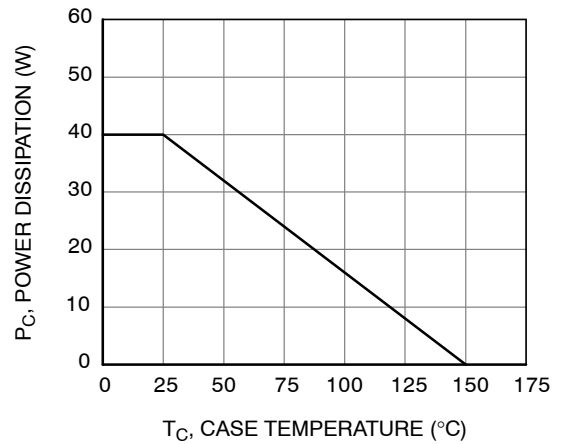
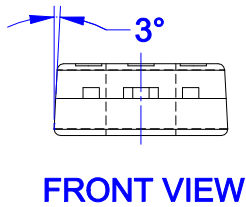
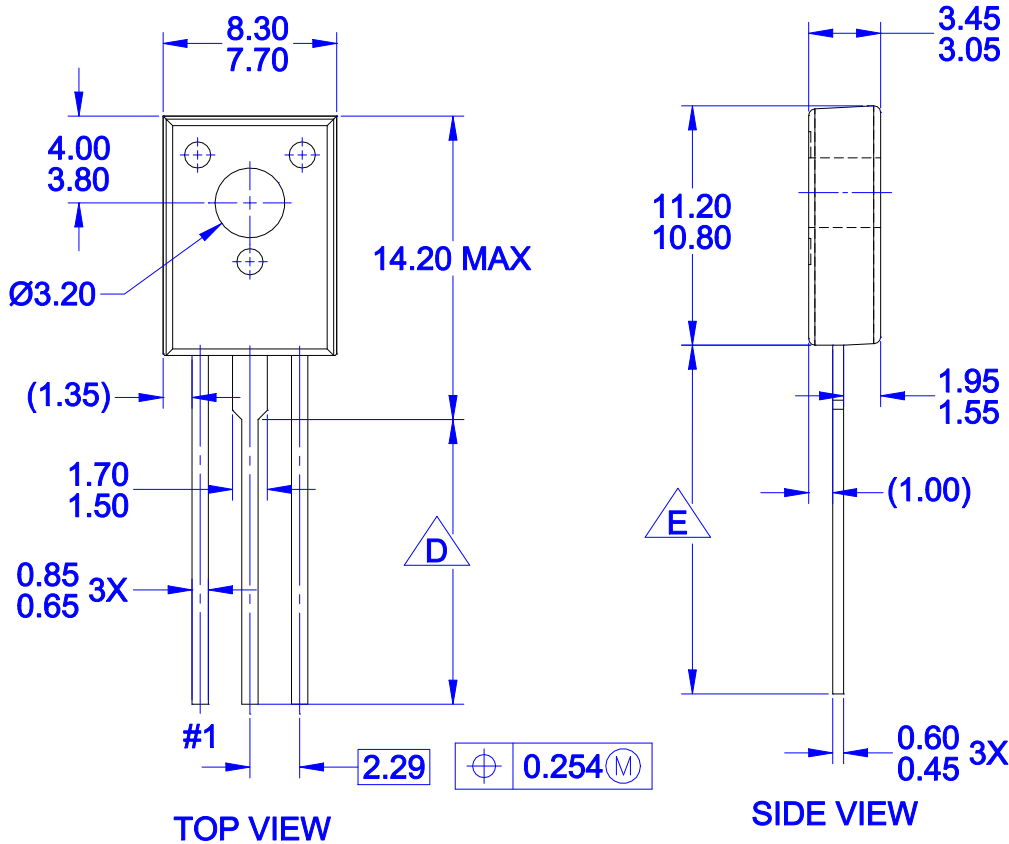


Figure 6. Power Derating

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

TO-126-3LD
CASE 340AS
ISSUE 0

DATE 30 SEP 2016



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

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