Is Now Part of

ON Semiconductor®

To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

April 2015

KSH44H11 / KSH44H11I
NPN Epitaxial Silicon Transistor

Features

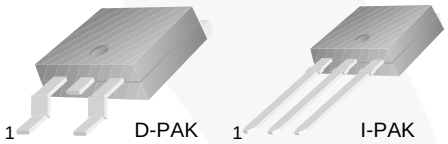
- Lead Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, “- I” Suffix)
- Electrically Similar to Popular KSE44H
- Fast Switching Speeds
- Low Collector-Emitter Saturation Voltage

Applications

- Switching Regulators
- Converters
- Power Amplifiers

Description

Designed for general-purpose power and switching, such as output or driver stages in applications.



1.Base 2.Collector 3.Emitter

Ordering Information

Part Number	Top Mark	Package	Packing Method
KSH44H11TF	KSH44H11	TO-252 3L (DPAK)	Tape and Reel
KSH44H11TM	KSH44H11	TO-252 3L (DPAK)	Tape and Reel
KSH44H11ITU	KSH44H11-I	TO-251 3L (IPAK)	Rail

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	8	A
I_{CP}	Collector Current (Pulse)	16	A
P_C	Collector Dissipation (T_C = 25°C)	20.00	W
	Collector Dissipation (T_A = 25°C)	1.75	
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 65 to +150	°C

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage[1]	I_C = 30 mA, I_B = 0	80			V
I_{CEO}	Collector Cut-Off Current	V_{CE} = 80 V, I_B = 0			10	µA
I_{EBO}	Emitter Cut-Off Current	V_{EB} = 5 V, I_C = 0			50	µA
h_{FE}	DC Current Gain	V_{CE} = 1 V, I_C = 2 A	60			
		V_{CE} = 1 V, I_C = 4 A	40			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 8 A, I_B = 0.4 A			1	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 8 A, I_B = 0.8 A			1.5	V
f_T	Current Gain Bandwidth Product	V_{CE} = 10 V, I_C = 0.5 A		50		MHz
C_{ob}	Output Capacitance	V_{CB} = 10 V, f = 1 MHz		130		pF
t_{ON}	Turn-On Time	I_C = 5 A, I_{B1} = - I_{B2} = 0.5 A		300		ns
t_{STG}	Storage Time			500		ns
t_F	Fall Time			140		ns

Note:

1. Pulse test: pulse width ≤ 300 µs, duty cycle ≤ 2%.

Typical Performance Characteristics

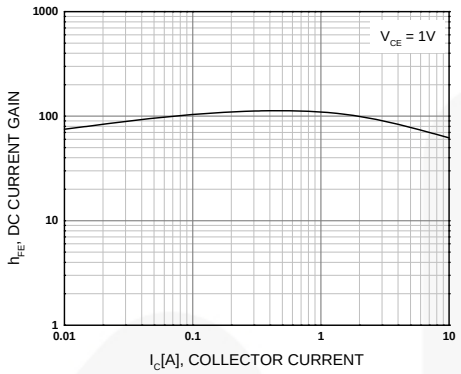


Figure 1. DC Current Gain

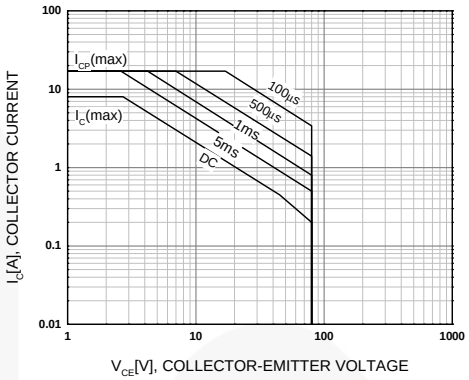


Figure 2. Safe Operating Area

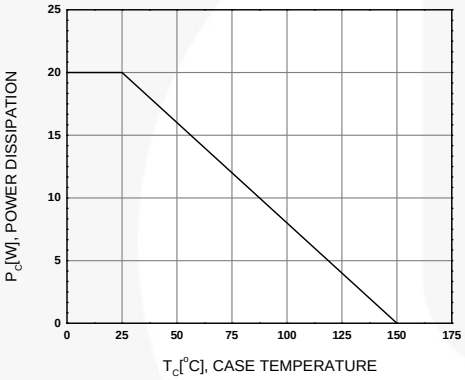
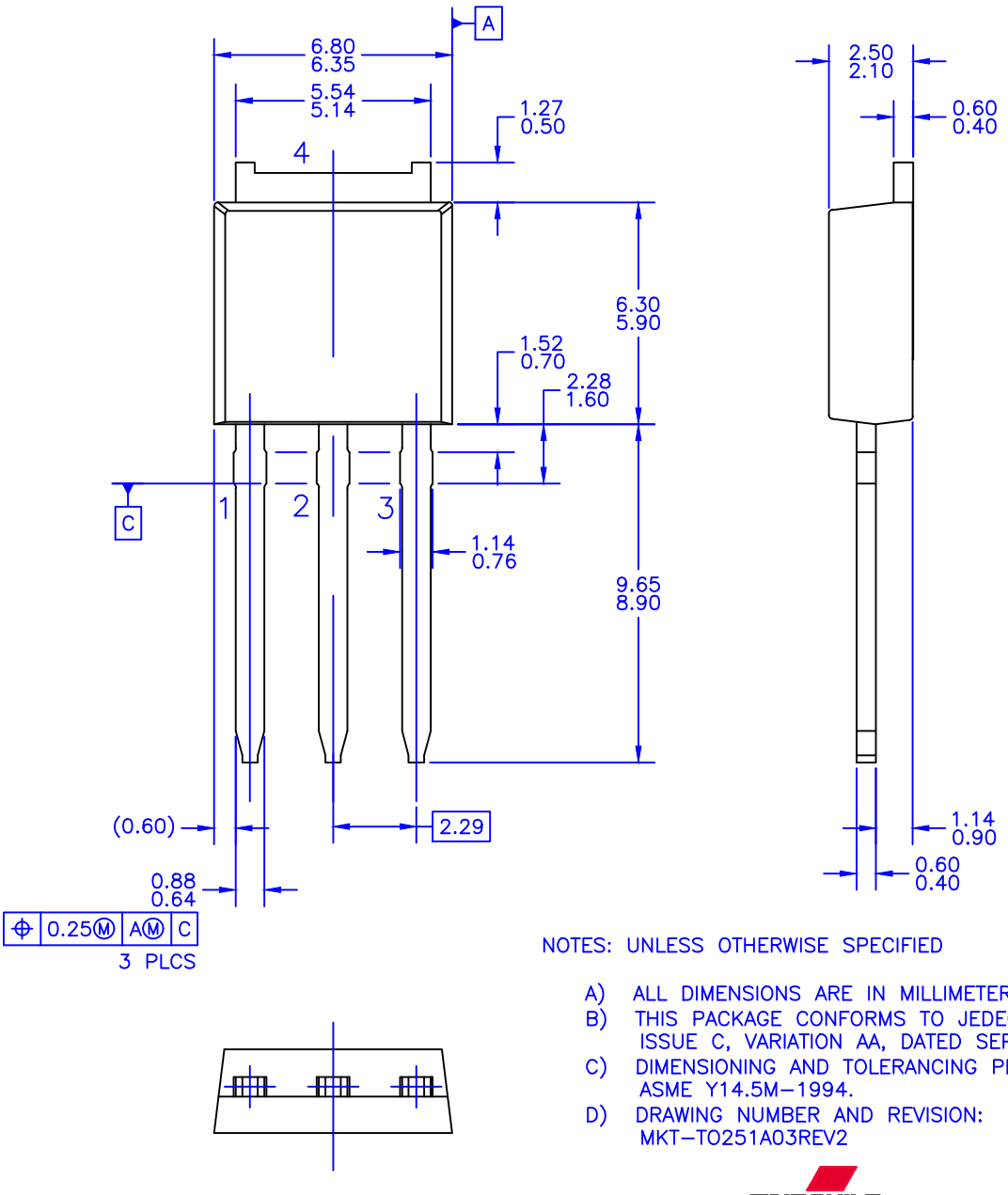


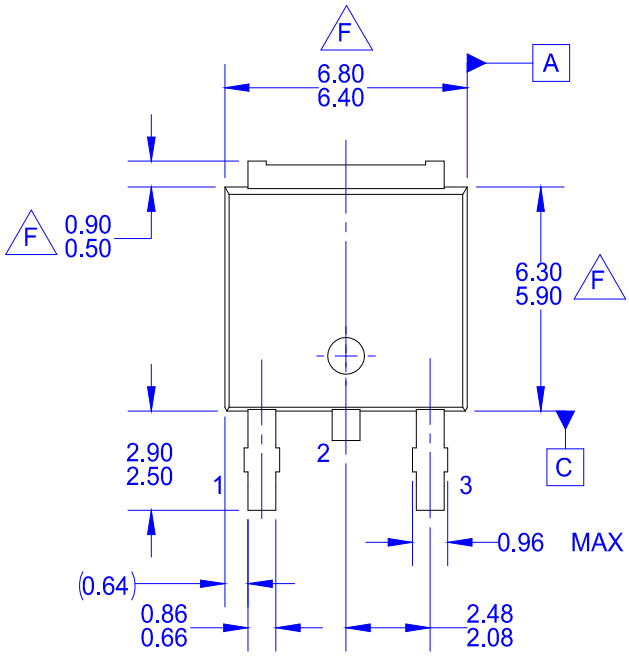
Figure 3. Power Derating

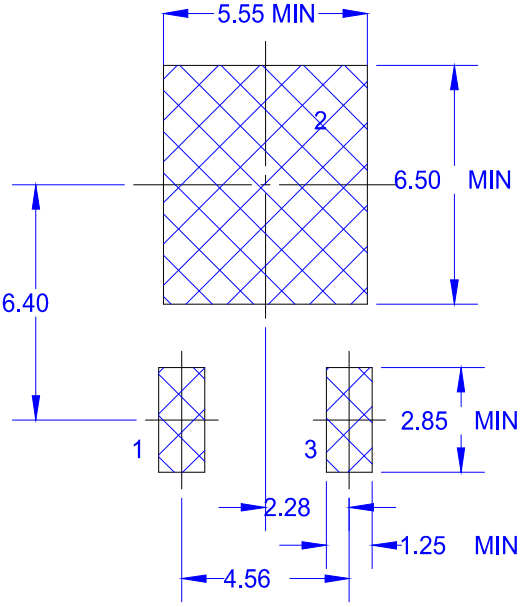


NOTES: UNLESS OTHERWISE SPECIFIED

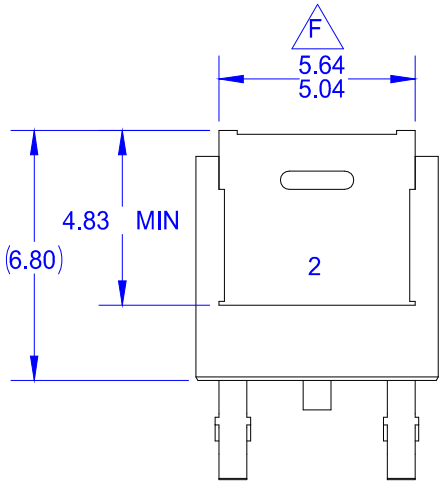
A) ALL DIMENSIONS ARE IN MILLIMETERS.
B) THIS PACKAGE CONFORMS TO JEDEC, TO-251, ISSUE C, VARIATION AA, DATED SEP 1988.
C) DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
D) DRAWING NUMBER AND REVISION: MKT-TO251A03REV2

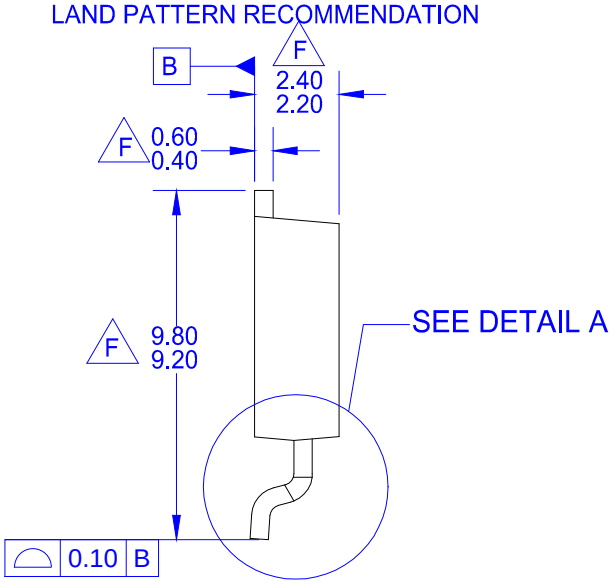
FAIRCHILD.

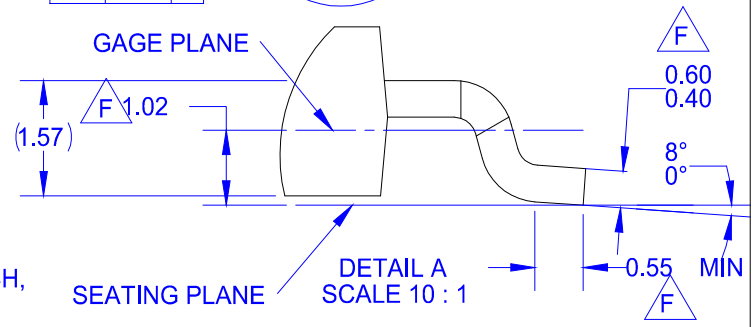




LAND PATTERN RECOMMENDATION







NOTES:UNLESS OTHERWISE SPECIFIED

A) NOT COMPLIANT TO JEDEC TO-252 VARIATION AB
B) ALL DIMENSION ARE IN MILLIMETER
C) DIMENSIONS ARE EXCLUSIVE OF BURRS,MOLD FLASH, AND TIE BAR EXTRUSIONS
D) LAD PATTERN PER IPC7351A ATANDARD TO228P991X239-3N
E) DRAWING FILE NAME:MKT-TO252D03REV4.
F) DOES NOT COMPLY JEDEC STANDARD VALUE.
G) FAIRCHILD SEMICONDUCTOR.

FAIRCHILD

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81−3−5817−1050

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative