chanhvinh.com

DATA SHEET
www.onsemi.com

Power Transistor 80 V, 8 A Dual General Purpose PNP

MJK45H11

Designed for general purpose power and switching applications such as regulators, converters and power amplifiers. Housed in advanced LFPAK package (5 x 6 mm) with excellent thermal conduction. Automotive end applications include air bag deployment, power train control units, and instrument clusters.

Features

- Complementary NPN: MJK44H11
- NJV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Value	Unit
Collector−Emitter Voltage	V_{CEO}	−80	Vdc
Emitter−Base Voltage	V_{EBO}	−5	Vdc
Collector Current − Continuous	I_C	−8	A
Collector Current − Peak	I_{CM}	−16	A
Junction and Storage Temperature Range	T_J, T_{stg}	−65 to +150	°C

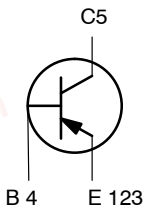
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction−to−Ambient per Device (Note 1)	$R_{\theta JC}$	6	°C/W
Thermal Resistance, Junction−to−Ambient per Device (Note 1)	$R_{\theta JA}$	70	°C/W
Total Power Dissipation per Device @ T_A = 25°C (Note 1)	P_D	20	W

1. Surface−mounted on FR4 board using a 1in^2, 2 oz. Cu pad

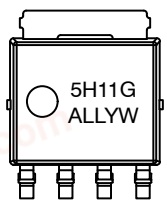
PNP TRANSISTOR
80 V, 8 A





LFPAK4 5x6
CASE 760AB

MARKING DIAGRAM



5H11G	= Specific Device Code
A	= Assembly Location
LL	= Wafer Lot
Y	= Year
W	= Work Week

ORDERING INFORMATION

Device	Package	Shipping†
MJK45H11TWG	LFPAK4 5x6 (Pb−Free)	3000 / Tape & Reel
NJVMJK45H11TWG	LFPAK4 5x6 (Pb−Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

© Semiconductor Components Industries, LLC, 2021

chanhvinh.com

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector−Emitter Sustaining Voltage (I_C = −30 mA, I_B = 0)	$V_{CEO(sus)}$	−80	–	–	Vdc
Collector Cutoff Current (V_{CE} = Rated V_{CEO}, V_{BE} = 0)	I_{CES}	–	–	−1.0	μA
Emitter Cutoff Current (V_{EB} = −5 Vdc)	I_{EBO}	–	–	−1.0	μA
ON CHARACTERISTICS					
Collector−Emitter Saturation Voltage (I_C = 8 Adc, I_B = 0.4 Adc)	$V_{CE(sat)}$	–	–	−1.0	Vdc
Base−Emitter Saturation Voltage (I_C = 8 Adc, I_B = 0.8 Adc)	$V_{BE(sat)}$	–	–	−1.5	Vdc
DC Current Gain (V_{CE} = 1 Vdc, I_C = 2 Adc) (V_{CE} = 1 Vdc, I_C = 4 Adc)	h_{FE}	60 40	– –	– –	–
DYNAMIC CHARACTERISTICS					
Collector Capacitance (V_{CB} = 10 Vdc, f_{test} = 1 MHz)	C_{cb}	–	130	–	pF
Gain Bandwidth Product (I_C = 0.5 Adc, V_{CE} = 10 Vdc, f = 20 MHz)	f_T	–	90	–	MHz

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.

chanhvinh.com

TYPICAL CHARACTERISTICS

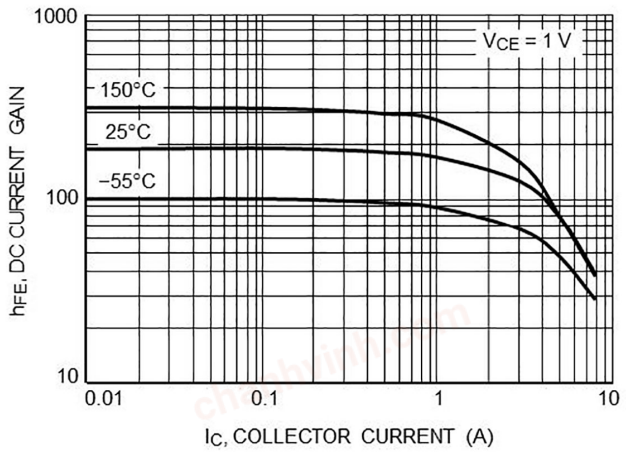


Figure 1. DC Current Gain

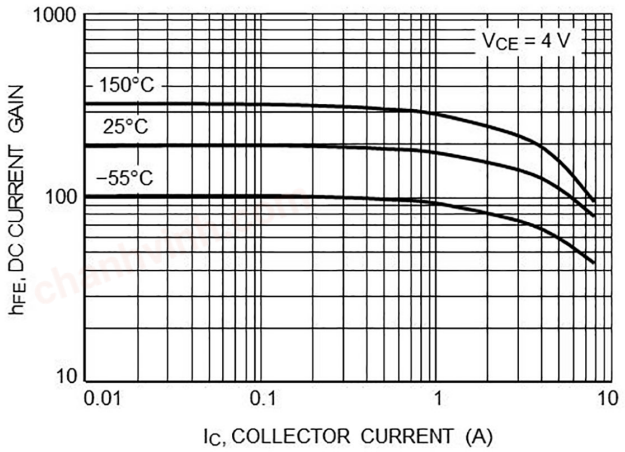


Figure 2. DC Current Gain

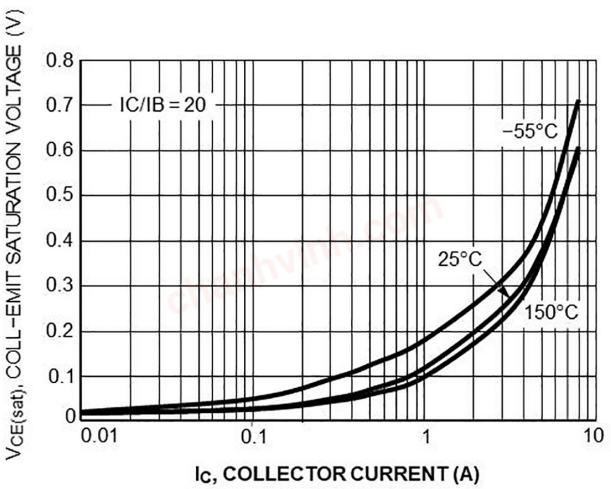


Figure 3. Saturation Voltage $V_{CE(sat)}$

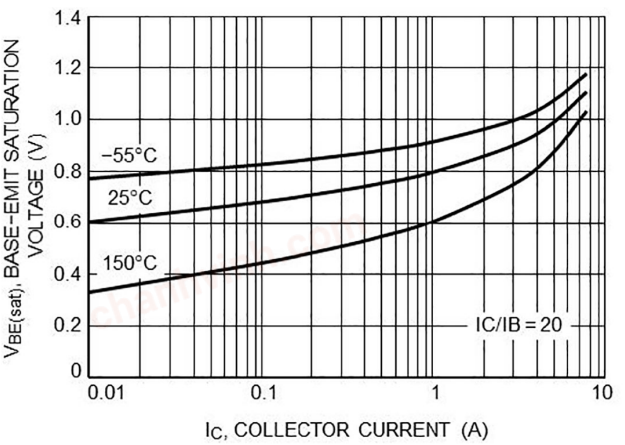


Figure 4. Saturation Voltage $V_{BE(sat)}$

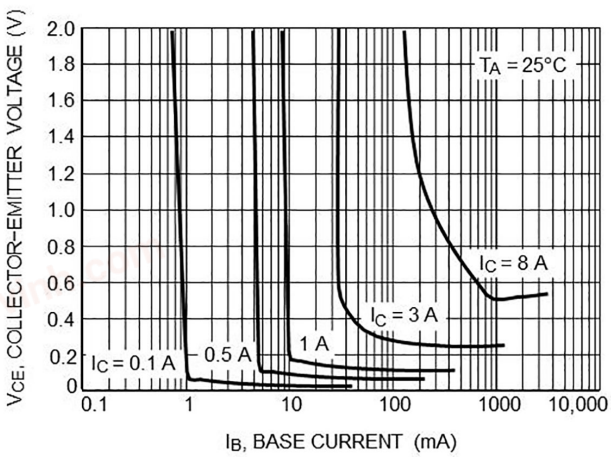


Figure 5. Collector Saturation Region

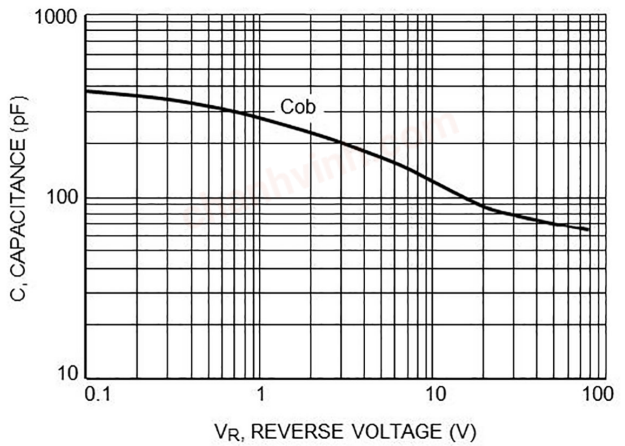


Figure 6. Capacitance

chanhvinh.com

TYPICAL CHARACTERISTICS (continued)

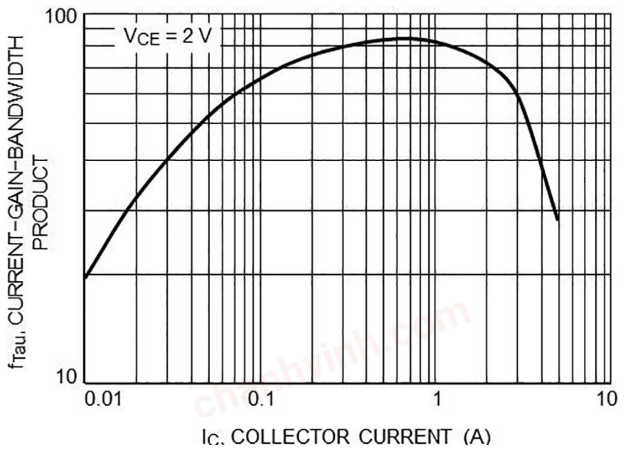


Figure 7. Current−Gain−Bandwidth Product

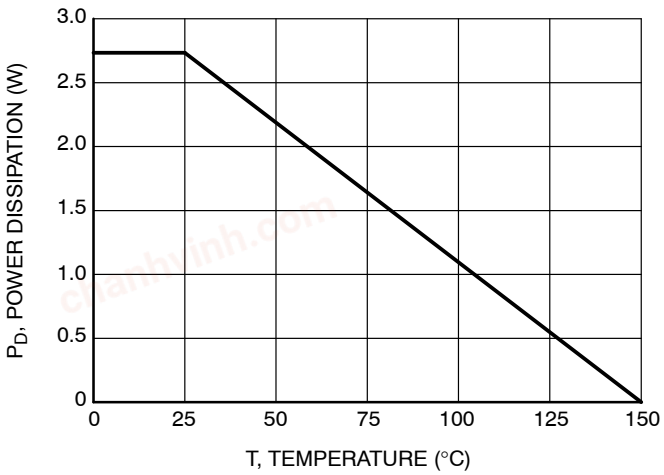


Figure 8. Power Derating

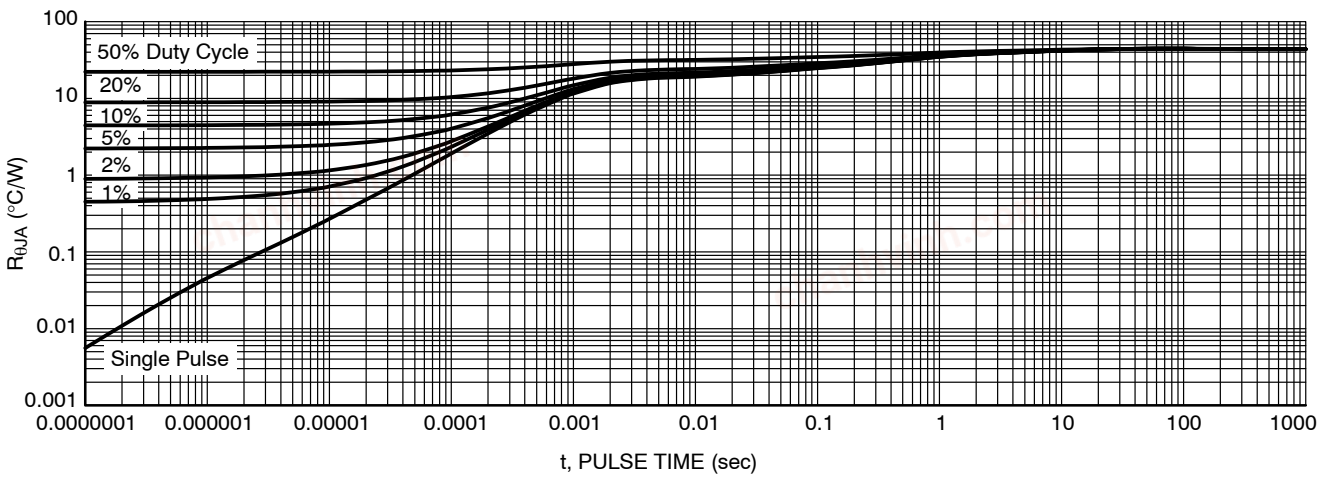


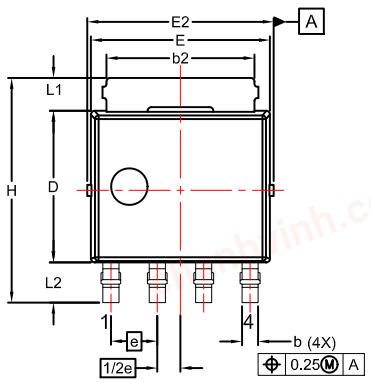
Figure 9. Typical Transient Thermal Response, Junction−to−Case

chanhvinh.com

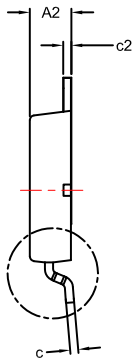
MJK45H11

PACKAGE DIMENSIONS

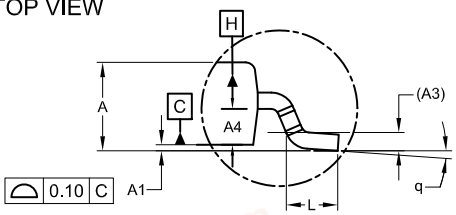
LFPAK4 5x6
CASE 760AB
ISSUE C

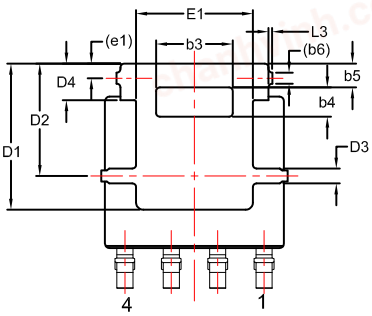


TOP VIEW



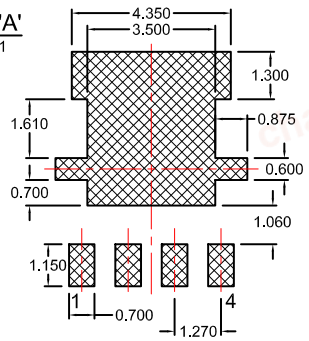
SIDE VIEW





BOTTOM VIEW

DETAIL 'A'
SCALE: 2:1



RECOMMENDED LAND PATTERN

*FOR ADDITIONAL INFORMATION ON OUR PB-FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR BURRS. MOLD FLASH PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.150mm PER SIDE.
4. DIMENSIONS D AND E ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY.
5. DATUMS A AND B ARE DETERMINED AT DATUM PLANE H.

UNIT IN MILLIMETER			
DIM	MIN	NOM	MAX
A	1.10	1.20	1.30
A1	0.00	0.08	0.15
A2	1.10	1.15	1.20
A3		0.25 REF	
A4	0.45	0.50	0.55
b	0.40	0.45	0.50
b2	3.80	4.10	4.40
b3	2.00	2.10	2.20
b4	0.70	0.80	0.90
b5	0.55	0.65	0.75
b6		0.31 REF	
c	0.19	0.22	0.25
c2	0.19	0.22	0.25
D	4.05	4.15	4.25
D1	3.80	4.00	4.20
D2	3.00	3.10	3.20
D3	0.30	0.40	0.50
D4	0.90	1.00	1.10
E	4.80	4.90	5.00
E1	3.10	3.20	3.30
E2	5.00	5.15	5.30
e		1.27 BSC	
1/2e		0.635 BSC	
e1		0.40 REF	
H	6.00	6.15	6.30
L	0.40	0.65	0.85
L1	0.80	0.90	1.00
L2	0.90	1.10	1.30
L3	0.00	0.10	0.20
q	0°	4°	8°

chanhvinh.com

MJK45H11

onsemi, ONSEMI., and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi's** product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent−Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as−is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Email Requests to: orderlit@onsemi.com

onsemi Website: www.onsemi.com

TECHNICAL SUPPORT
North American Technical Support:
Voice Mail: 1 800−282−9855 Toll Free USA/Canada
Phone: 011 421 33 790 2910

Europe, Middle East and Africa Technical Support:
Phone: 00421 33 790 2910
For additional information, please contact your local Sales Representative

◊