

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 $(T_A = 25^{\circ}C)$

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	-80	Vdc
Emitter-Base Voltage	V _{EBO}	-5	Vdc
Collector Current - Continuous	Ic	-8	Α
Collector Current - Peak	I _{CM}	-16	Α
Junction and Storage Temperature Range	T _J , T _{stg}	-65 to +150	°C

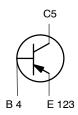
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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 1in², 2 oz. Cu pad

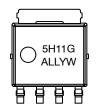
PNP TRANSISTOR 80 V, 8 A





LFPAK4 5x6 CASE 760AB

MARKING DIAGRAM



5H11G

Υ

1

= Specific Device Code

A LL Assembly LocationWafer Lot

. = vvale = 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.

$\textbf{ELECTRICAL CHARACTERISTICS} \ (T_A = 25^{\circ}C \ unless \ otherwise \ noted)$

Characteristic	Symbol	Min	Тур	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Sustaining Voltage (I _C = -30 mA, I _B = 0)	V _{CEO(sus)}	-80	-	-	Vdc
Collector Cutoff Current $(V_{CE} = Rated V_{CEO}, V_{BE} = 0)$	Ices	-	-	-1.0	μΑ
Emitter Cutoff Current (V _{EB} = -5 Vdc)	I _{EBO}	-	-	-1.0	μΑ
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 $(I_C = 8 \text{ Adc}, I_B = 0.8 \text{ Adc})$	V _{BE(sat)}	-	-	-1.5	Vdc
DC Current Gain $(V_{CE} = 1 \text{ Vdc}, I_C = 2 \text{ Adc})$ $(V_{CE} = 1 \text{ Vdc}, I_C = 4 \text{ Adc})$	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⊤	-	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.

TYPICAL CHARACTERISTICS

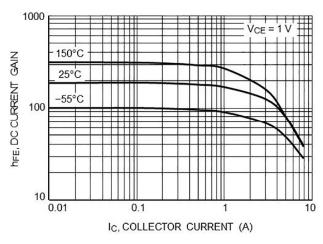


Figure 1. DC Current Gain

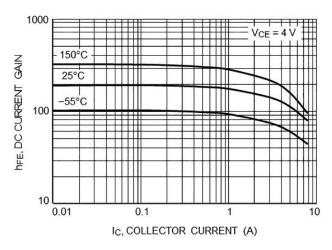


Figure 2. DC Current Gain

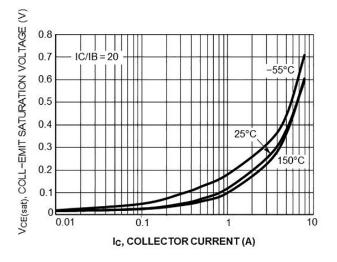


Figure 3. Saturation Voltage V_{CE(sat)}

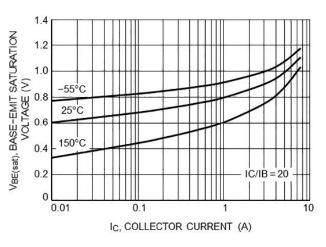


Figure 4. Saturation Voltage V_{BE(sat)}

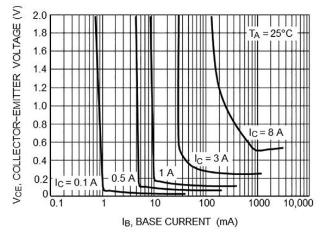


Figure 5. Collector Saturation Region

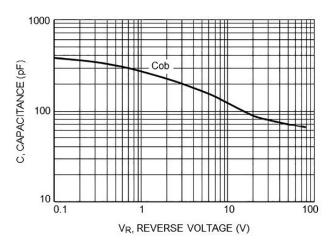
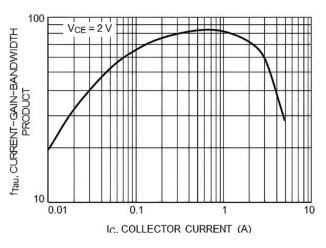


Figure 6. Capacitance

TYPICAL CHARACTERISTICS (continued)



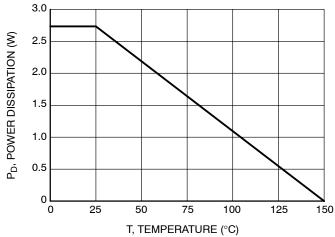


Figure 7. Current-Gain-Bandwidth Product

Figure 8. Power Derating

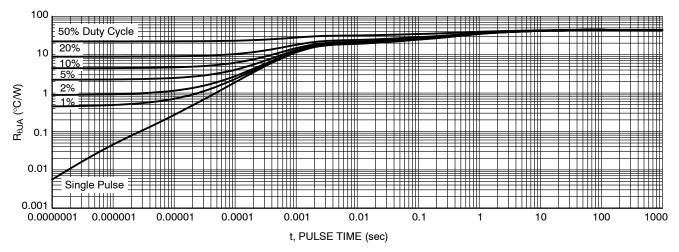
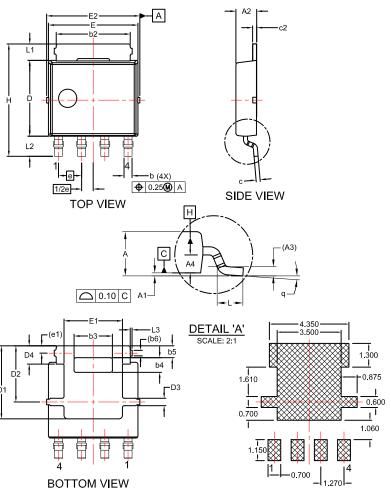


Figure 9. Typical Transient Thermal Response, Junction-to-Case

PACKAGE DIMENSIONS

LFPAK4 5x6 CASE 760AB ISSUE C



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, SOLDERRMD.

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	
Α	1.10	1.20	1.30	
A1	0.00	0.08	0.15	
A2	1.10	1.15	1.20	
А3	().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 REI	F	
С	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	
Е	4.80	4.90	5.00	
E1	3.10	3.20	3.30	
E2	5.00	5.15	5.30	
е		1.27 BSC		
1/2e	0.635 BSC			
e1	0.40 REF			
Ι	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°	

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