

N-CHANNEL MOSFET

Qualified per MIL-PRF-19500/556

DEVICES

2N6784 2N6784U

LEVELS

**JAN
 JANTX
 JANTXV**

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

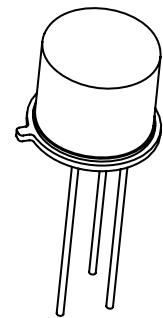
Parameters / Test Conditions	Symbol	Value	Unit
Drain – Source Voltage	V_{DS}	200	Vdc
Gate – Source Voltage	V_{GS}	± 20	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	I_{D1}	2.25	Adc
Continuous Drain Current $T_C = +100^\circ\text{C}$	I_{D2}	1.5	Adc
Max. Power Dissipation	P_{tl}	15 ⁽¹⁾	W
Drain to Source On State Resistance	$R_{ds(on)}$	1.5 ⁽²⁾	Ω
Operating & Storage Temperature	T_{op}, T_{stg}	-55 to +150	$^\circ\text{C}$

Note: (1) Derated Linearly by 0.12 W/ $^\circ\text{C}$ for $T_C > +25^\circ\text{C}$

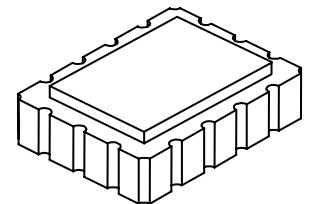
(2) $V_{GS} = 10\text{Vdc}$, $I_D = 1.5\text{A}$

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Drain-Source Breakdown Voltage $V_{GS} = 0\text{V}$, $I_D = 1\text{mA}$	$V_{(BR)DSS}$	200		Vdc
Gate-Source Voltage (Threshold) $V_{DS} \geq V_{GS}$, $I_D = 0.25\text{mA}$ $V_{DS} \geq V_{GS}$, $I_D = 0.25\text{mA}$, $T_j = +125^\circ\text{C}$ $V_{DS} \geq V_{GS}$, $I_D = 0.25\text{mA}$, $T_j = -55^\circ\text{C}$	$V_{GS(th)1}$ $V_{GS(th)2}$ $V_{GS(th)3}$	2.0 1.0	4.0 5.0	Vdc
Gate Current $V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$ $V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$, $T_j = +125^\circ\text{C}$	I_{GSS1} I_{GSS2}		± 100 ± 200	nAdc
Drain Current $V_{GS} = 0\text{V}$, $V_{DS} = 160\text{V}$ $V_{GS} = 0\text{V}$, $V_{DS} = 160\text{V}$, $T_j = +125^\circ\text{C}$	I_{DSS1} I_{DSS2}		25 0.25	μAdc mAdc
Static Drain-Source On-State Resistance $V_{GS} = 10\text{V}$, $I_D = 1.5\text{A}$ pulsed $V_{GS} = 10\text{V}$, $I_D = 2.25\text{A}$ pulsed $T_j = +125^\circ\text{C}$ $V_{GS} = 10\text{V}$, $I_D = 1.5\text{A}$ pulsed	$r_{DS(on)1}$ $r_{DS(on)2}$ $r_{DS(on)3}$		1.5 1.6 2.81	Ω Ω Ω
Diode Forward Voltage $V_{GS} = 0\text{V}$, $I_D = 2.25\text{A}$ pulsed	V_{SD}		1.5	Vdc

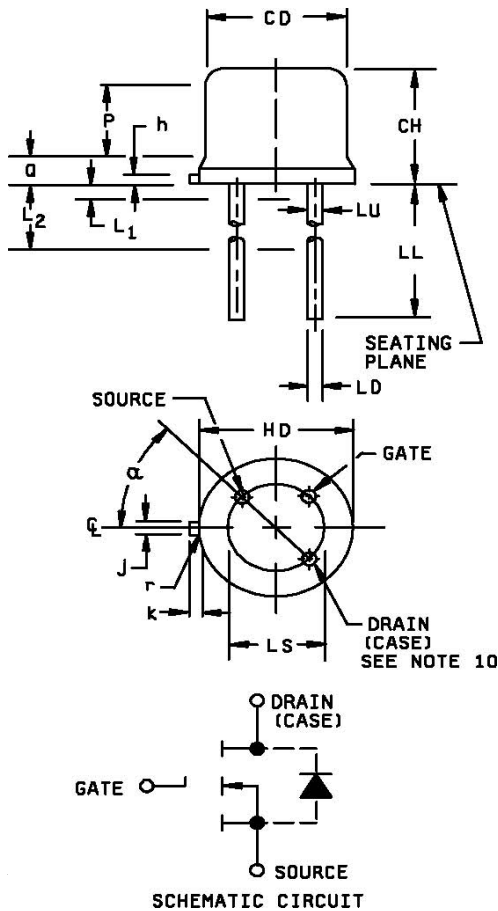


TO-205AF
(formerly TO-39)



U – 18 LCC

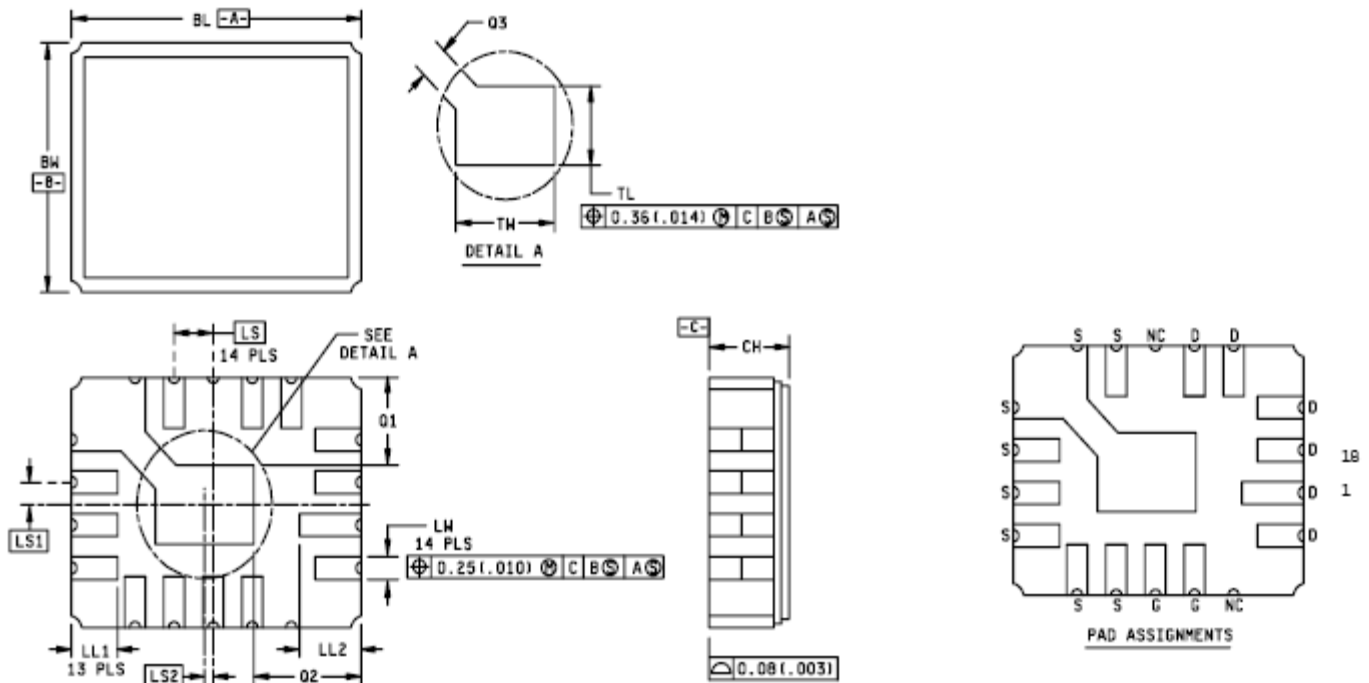
PACKAGE DIMENSIONS



Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD	.305	.355	7.75	9.02	
CH	.160	.180	4.07	4.57	
HD	.335	.370	8.51	9.39	
h	.009	.041	0.23	1.04	
J	.028	.034	0.72	0.86	2
k	.029	.045	0.74	1.14	3
LD	.016	.021	0.41	0.53	7, 8
LL	.500	.750	12.7	19.05	7, 8
LS	.200 TP		5.08 TP		6
LU	.016	.019	0.41	0.48	7, 8
L ₁		.050		1.27	7, 8
L ₂	.250		6.35		7, 8
P	.070		1.78		5
Q		.050		1.27	4
r		.010		0.25	9
α	45° TP		45° TP		6

- 1 Dimensions are in inches. Millimeters are given for general information only.
- 2 Beyond radius (r) maximum, j shall be held for a minimum length of .011 (0.028 mm).
- 3 Dimension k measured from maximum HD.
- 4 Outline in this zone is not controlled.
- 5 Dimension CD shall not vary more than .010 (0.25 mm) in zone P. This zone is controlled for automatic handling.
- 6 Leads at gauge plane .054 +.001, -.000 (1.37 +0.03, -0.00 mm) below seating plane shall be within .007 (0.18 mm) radius of true position (TP) at maximum material condition (MMC) relative to tab at MMC.
- 7 LU applies between L₁ and L₂. LD applies between L₂ and L minimum. Diameter is uncontrolled in L₁ and beyond LL minimum.
- 8 All three leads.
- 9 Radius (r) applies to both inside corners of tab.
- 10 Drain is electrically connected to the case.
- 11 In accordance with ASME Y14.5M, diameters are equivalent to φx symbology.

FIGURE 1. Physical dimensions for TO-205AF.



NOTES:

- 1 Dimensions are in inches.
- 2 Millimeters are given for general information only.
- 3 In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.
- 4 Ceramic package only.

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.345	.360	8.77	
BW	.280	.295	7.11	
CH	.095	.115	2.41	
LL ₁	.040	.055	1.02	
LL ₂	.055	.065	1.40	
LS	.050 BSC		1.27 BSC	
LS ₁	.025 BSC		0.635 BSC	
LS ₂	.008 BSC		0.203 BSC	
LW	.020	.030	0.51	0.76
Q ₁	.105 REF		2.67 REF	
Q ₂	.120 REF		3.05 REF	
Q ₃	.045	.055	1.14	1.40
TL	.070	.080	1.78	2.03
TW	.120	.130	3.05	3.30

FIGURE 2. Physical dimensions for LCC.