



2N2646 – 2N2647

SILICON UNIJUNCTION TRANSISTORS

Silicon Planar Unijunction Transistors have a structure resulting in lower saturation voltage, peak-point current and valley current as well as a much higher base-one peak pulse voltage. In addition, these devices are much faster switches.

The 2N2646 is intended for general purpose industrial applications where circuit economy is of primary importance, and is ideal for use in firing circuits for Silicon Controlled Rectifiers and other applications where a guaranteed minimum pulse amplitude is required. The 2N2647 is intended for applications where a low emitter leakage current and a low peak point emitter current (trigger current) are required and also for triggering high power SCR's.

Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

$T_j=125^{\circ}\text{C}$ unless otherwise noted

Symbol	Ratings	2N2646 – 2N2647	Unit
V_{B2E}	Emitter-Base2 Voltage	30	V
I_e	RMS Emitter Current	50	mA
i_e	Peak Pulse Emitter Current *	2	A
V_{B2B1}	Interbase Voltage	35	V
P_D	RMS power Dissipation	300	mW
T_J	Junction Temperature	-65 to +125	$^{\circ}\text{C}$
T_{Stg}	Storage Temperature	-65 to +150	$^{\circ}\text{C}$

Capacitor discharge – 10 μF or less, 30volts or less.

ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Ratings	Min.	Typ.	Max.	Unit	
η	Intrinsic stand-off ratio $V_{B2B1} = 10\text{V}$	2N2646	0.56	-	0.75	-
		2N2647	0.68	-	0.82	
R_{BBO}	Interbase Resistance , $V_{B2B1} = 3\text{V}$	4.7	-	9.1	K Ω	
$V_{EB1(sat)}$	Emitter Saturation Voltage $V_{B2B1} = 10\text{V}$, $I_E = 50\text{mA}$	-	-	2.5	V	
$I_{B2(MOD)}$	Modulated Interbase Current $V_{B2B1} = 10\text{V}$, $I_E = 50\text{mA}$	-	15	-	V	
I_{EO}	Emitter Revers Current $V_{B2E} = 30\text{V}$, $I_{B1} = 0$	-	-	12	μA	
$V_{(BR)B1E}$	Base 1 Emitter breakdown Voltage $I_E = 100\mu\text{A}$	30	-	-	V	
I_V	Valley Current , $V_{B2B1} = 20\text{V}$	2N2646	4	-	-	mA
		2N2647	8	-	-	
I_P	Peak Current , $V_{B2B1} = 25\text{V}$	2N2646	-	-	5	μA
		2N2647	-	-	2	

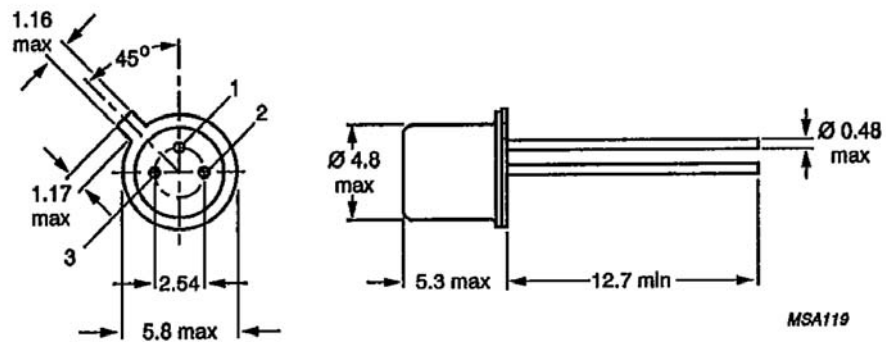
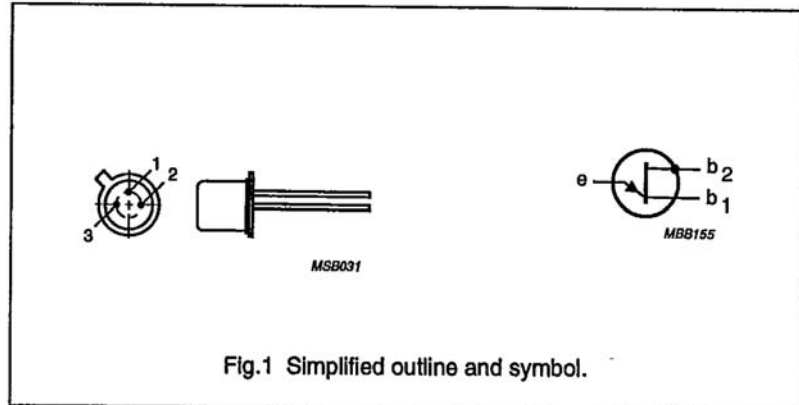


2N2646 – 2N2647

MECHANICAL DATA CASE TO-18 (Case 22A-01 – Style 1)

Base 2 connected to case.

PIN	DESCRIPTION
1	emitter
2	base 1
3	base 2



Dimensions in mm.

Revised August 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.

www.comsetsemi.com

info@comsetsemi.com