



**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-emitter 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.

### 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
$T_J$	<i>Junction Temperature</i>	-65 to +125	$^{\circ}\text{C}$
$T_{Stg}$	Storage Temperature	-65 to +150	$^{\circ}\text{C}$

Capacitor discharge – 10 $\mu\text{F}$  or less, 30volts or less.



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**ELECTRICAL CHARACTERISTICS**

TC=25°C unless otherwise noted

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

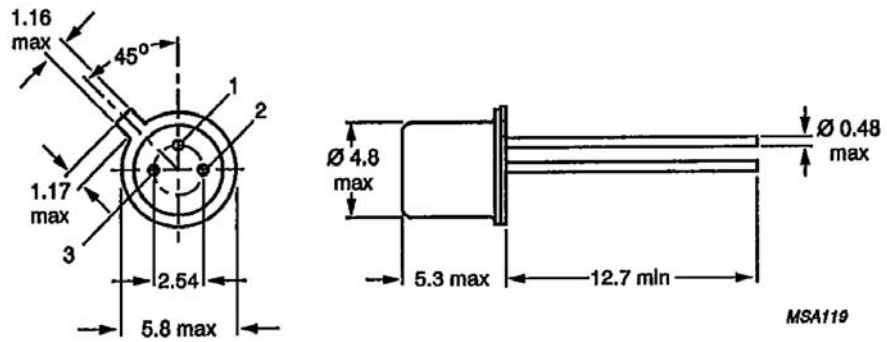
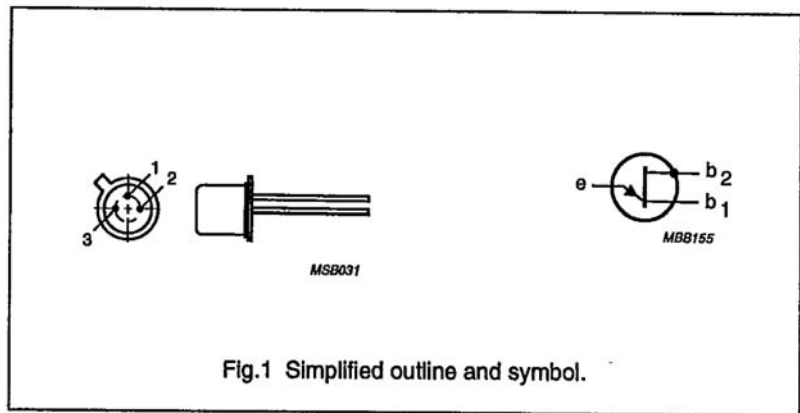


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**MECHANICAL DATA CASE TO-18**

Base 2 connected to case.

PIN	DESCRIPTION
1	emitter
2	base 1
3	base 2



Dimensions in mm.

**COMSET SEMICONDUCTORS**

*Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.*

**Data are subject to change without notice.**