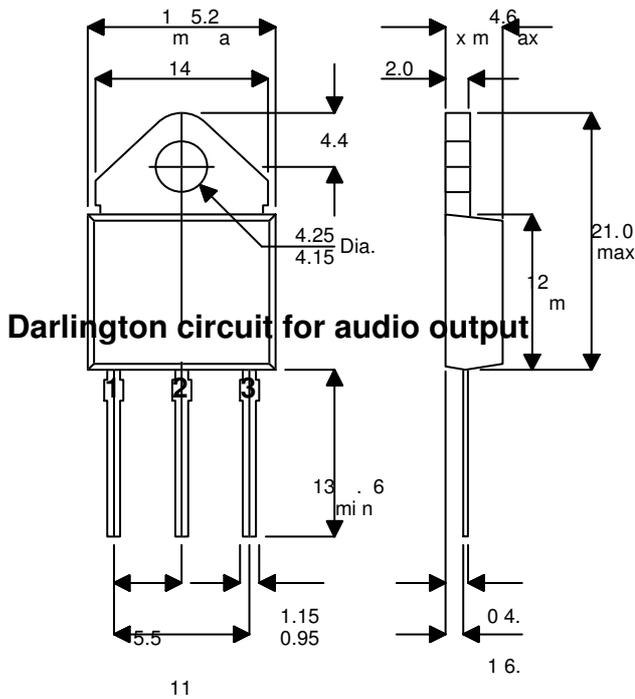


**MECHANICAL DATA**  
Dimensions in mm



**SOT 93**

- Pin 1 ? Base
- Pin 2 ? Collector
- Pin 3 ? Emitter

**SILICON DARLINGTON POWER TRANSISTORS**

Complementary epitaxial base transistors in monolithic stages and general amplifier and switching applications.

The T64 is PNP and the T65 is NPN

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{case} = 25^{\circ}C$ unless otherwise stated)		T64	T65
$V_{CBO}$	Collector ? Base Voltage (Open Emitter)	?120V	120V
$V_{CEO}$	Collector ? Emitter Voltage (Open Base)	?120V	120V
$V_{EBO}$	Emitter ? Base Voltage (Open Collector)	?5V	5V
$I_C$	Collector Current (d.c)	12A	
$I_{CM}$	Peak Collector Current	20A	
$I_B$	Base Current (d.c)	0.5A	
$P_{tot}$	Total Power Dissipation up to $T_{mb} = 25^{\circ}C$	125W	
$T_{stg}$	Storage Temperature Range	?65 to 150 $^{\circ}C$	
$T_j$	Maximum Junction Temperature	150 $^{\circ}C$	

**ELECTRICAL CHARACTERISTICS** ( $T_j = 25^\circ\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{BE}^*$ Base ? Emitter Voltage	$I_C = 5A$ $V_{CE} = 4V$			2.5	V
$V_{CE(sat)}^*$ Collector ? Emitter Saturation Voltage	$I_C = 5A$ $I_B = 20mA$			2	V
$I_{CBO}$ Collector ? Base Cut-off Current	$I_E = 0$ $V_{CB} = V_{CBO(max)}$			400	mA
	$I_E = 0$ $V_{CB} = -V_{CBO(max)}$ $T_j = 150^\circ\text{C}$			2	mA
	$I_B = 0$ $V_{CB} = -V_{CBO(max)}$			1	mA
$I_{EBO}$ Emitter Cut-off Current	$I_C = 0$ $V_{EB} = 5V$			5	mA
$h_{FE}^*$ DC Current Gain	$I_C = 1A$ $V_{CE} = 4V$		1500		?
	$I_C = 5A$ $V_{CE} = 4V$	1000			
	$I_C = 10A$ $V_{CE} = 4V$		1750		
$C_C$ Collector Capacitance	$I_E = I_e = 0$ $V_{CB} = 10V$ $f = 1\text{ MHz}$		150		pF
$f_{hfe}$ Cut-off Frequency	$I_C = 5A$ $V_{CE} = 4V$		70		kHz
$V_F$ Diode Forward Voltage	$I_F = 5A$		1.2		V
	$I_F = 12A$		2		

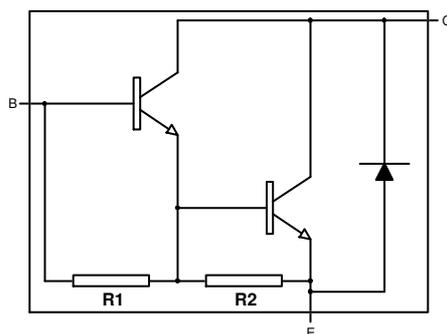
\* Pulse test  $t_p < 300ms$ ,  $d < 2\%$

**SWITCHING CHARACTERISTICS** ( $T_{case} = 25^\circ\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_{on}$ Turn-On Time	$I_{C(on)} = 5A$ $V_{CC} = 16V$ $I_{B(on)} = ?$ $I_{B(off)} = 20mA$		1		ms
$t_f$ Fall Time			3		
$t_{off}$ Turn-Off Time			6		

**THERMAL DATA**

$R_{THj?mb}$	Thermal Resistance Junction ? Mounting Base	Max. 1 K / W
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R1 typical 5k\*  
R2 typical 80\*

This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.