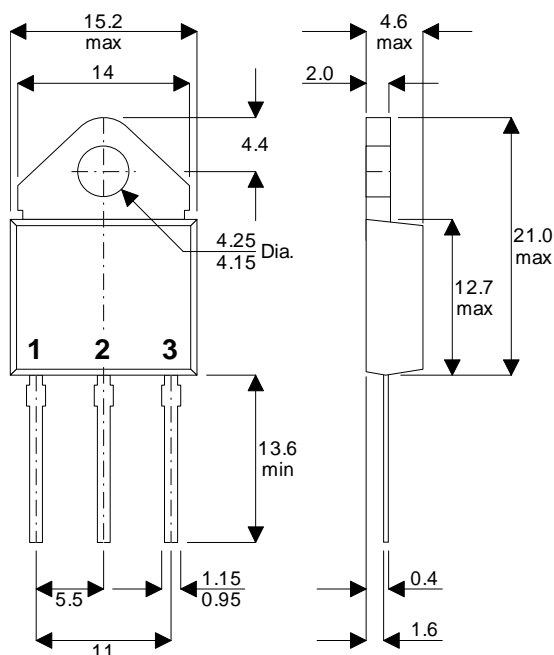


**MECHANICAL DATA**

Dimensions in mm



**SOT 93**

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

**SILICON DARLINGTON POWER TRANSISTORS**

**Complementary epitaxial base transistors in monolithic Darlington circuit for audio output stages and general amplifier and switching applications.**

**The T64 is PNP and the T65 is NPN**

**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  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°C	
$T_j$	Maximum Junction Temperature	150°C	

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

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

\* Pulse test  $t_p < 300\mu\text{s}$ ,  $\delta < 2\%$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$t_{on}$	$I_{C(on)} = 5\text{A}$ $V_{CC} = 16\text{V}$ $I_{B(on)} = - I_{B(off)} = 20\text{mA}$		1		$\mu\text{s}$
$t_f$			3		
$t_{off}$			6		

**THERMAL DATA**

$R_{THj-mb}$	Thermal Resistance Junction – Mounting Base	Max. 1 K / W
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