

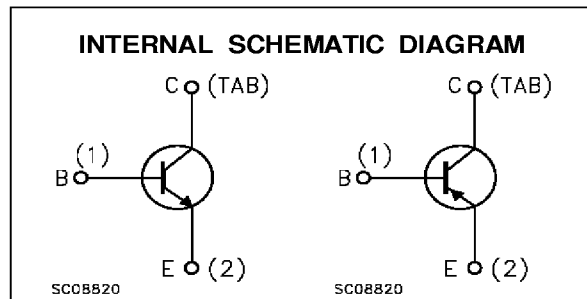
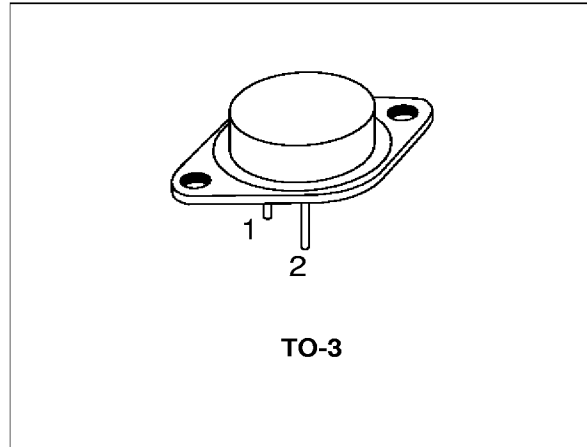
COMPLEMENTARY SILICON POWER TRANSISTORS

- 2N3715 AND 2N3792 ARE SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The 2N3715 and 2N3716 are silicon epitaxial-base NPN power transistor in Jedec TO-3 metal case. They are intended for use in power linear and switching applications.

The complementary PNP types are 2N3791 and 2N3792 respectively.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit	
		NPN	2N3715		2N3716
		PNP	2N3791		2N3792
V_{CBO}	Collector-Base Voltage ($I_E = 0$)		80	100	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)		60	80	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)		7		V
I_C	Collector Current		10		A
I_B	Base Current		4		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ\text{C}$		150		W
T_{stg}	Storage Temperature		-65 to 200		$^\circ\text{C}$
T_j	Max. Operating Junction Temperature		200		$^\circ\text{C}$

For PNP types voltage and current values are negative.

2N3715/2N3716/2N3791/2N3792

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.17	$^{\circ}C/W$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current ($V_{BE} = -1.5V$)	for 2N3715/2N3791 $V_{CE} = 80 V$			1	mA
		for 2N3716/2N3792 $V_{CE} = 100 V$			1	mA
		$T_c = 150^{\circ}C$				
		for 2N3715/2N3791 $V_{CE} = 60 V$			10	mA
		for 2N3716/2N3792 $V_{CE} = 80 V$			10	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 7 V$			5	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 200 mA$ for 2N3715/2N3791 for 2N3716/2N3792	60 80			V V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 5 A$ $I_B = 0.5 A$ for 2N3715/2N3716 for 2N3791/2N3792			0.8 1	V V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 5 A$ $I_B = 0.5 A$			1.5	V
V_{BE*}	Base-Emitter Voltage	$I_C = 3 A$ $V_{CE} = 2 V$			1.5	V
h_{FE*}	DC Current Gain	$I_C = 1 A$ $V_{CE} = 2 V$ for 2N3715/2N3716	50		150	
		for 2N3791/2N3792	50		180	
		$I_C = 3 A$ $V_{CE} = 2 V$	30			
		$I_C = 10 A$ $V_{CE} = 4 V$	5			
f_T	Transition frequency	$I_C = 0.5 A$ $V_{CE} = 10 V$	4			MHz

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5%
For PNP types voltage and current values are negative.

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	

