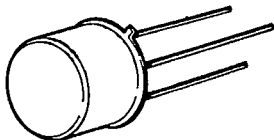


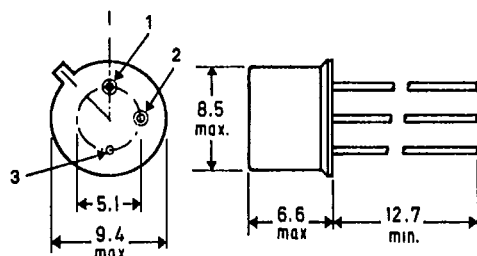
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SEMELAB**2N 6795****2N 6796****MECHANICAL DATA**

Dimensions in mm

MOS POWER**N-Channel Enhancement Mode****APPLICATIONS**

- FAST SWITCHING
- MOTOR CONTROLS
- POWER SUPPLIES

PIN 1 - Source PIN 2 - Gate PIN 3 Drain and Case

T039

ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	2N 6795	2N 6796
V_{DS} Drain source voltage	60V	100V
V_{DGR} Drain gate voltage ($R_{DS} = 1\text{M}\Omega$)	60V	100V
$I_D @ T_C = 25^{\circ}\text{C}$ Continuous drain current	$\pm 8\text{A}$	
$I_D @ T_C = 100^{\circ}\text{C}$ Continuous drain current	$\pm 5\text{A}$	
I_{DM} Pulsed drain current (I)	$\pm 25\text{A}$	
V_{GS} Gate-source voltage	$\pm 40\text{V}$	
$P_D @ T_C = 25^{\circ}\text{C}$ Maximum power dissipation	25W	
$P_D @ T_C = 100^{\circ}\text{C}$ Maximum power dissipation	10W	
Junction to case Linear derating factor	0.2 W/ $^{\circ}\text{C}$	
Junction to ambient Linear derating factor	0.005 W/ $^{\circ}\text{C}$	
T_J Operating and storage temperature range	-55 to 150°C	
Lead temperature (1/16" from case for 10 secs.)	300°C	

(I) Pulse test: Pulse width $\leq 300\mu\text{sec}$, duty cycle $\leq 2\%$

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2N 6795 2N 6796

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ELECTRICAL CHARACTERISTICS (T_{CASE} = 25°C unless otherwise specified)

STATIC

Parameter	Type	Min.	Typ.	Max.	Units	Test Conditions
BV _{DSS} Drain-Source Breakdown Voltage	2N6795	60*			V	V _{GS} = 0 I _D = 1.0 mA
	2N6796	100*			V	
V _{GS(th)} Gate-Threshold Voltage	All	2.0*		4.0*	V	V _{DS} = V _{GS} , I _D = 1.0 mA
I _{GSSF} Gate-Body Leakage Forward	All			100*	nA	V _{GS} = 20V
I _{GSSR} Gate-Body Leakage Reverse	All			-100*	nA	V _{GS} = -20V
I _{DSS} Zero Gate Voltage Drain Current	All			1.0*	mA	V _{DS} = Max. Rating, V _{GS} = 0
	All			4.0*	mA	V _{DS} = Max. Rating, V _{GS} = 0 T _C = 125°C
I _{D(on)} On-State Drain Current ¹	2N6795	8.0			A	V _{DS} > 2V _{DS(on)} , V _{GS} = 10V
	2N6796	8.0			A	V _{DS} > 2V _{DS(on)} , V _{GS} = 10V
V _{DS(on)} Static Drain-Source On-State Voltage ¹	2N6795			1.56*	V	V _{GS} = 10V, I _D = 8.0A
	2N6796			1.56*	V	V _{GS} = 10V, I _D = 8.0A
R _{DS(on)} Static Drain-Source On-State Resistance ¹	2N6795			0.18*	Ω	V _{GS} = 10V, I _D = 5.0A
	2N6796			0.18*	Ω	V _{GS} = 10V, I _D = 5.0A
R _{DS(on)} Static Drain-Source On-State Resistance ¹	2N6795			0.35*	Ω	V _{GS} = 10V, I _D = 5A, T _C = 125°C
	2N6796			0.35*	Ω	V _{GS} = 10V, I _D = 5A, T _C = 125°C

DYNAMIC

g _{fs} Forward Transconductance ¹	All	3.0*		9.0*	S (U)	V _{DS} > 2V _{DS(on)} , I _D = 5A
C _{iss} Input Capacitance	All	350*		900*	pF	V _{GS} = 0, V _{DS} = 25V f = 1 MHz
C _{oss} Output Capacitance	All	150*		500*	pF	
C _{rss} Reverse Transfer Capacitance	All	50*		150*	pF	
t _{d(on)} Turn-On Delay Time	All			30*	ns	V _{DD} = 30V, I _D = 5A R _g = 7.5Ω, R _L = 6Ω (MOS FET switching times are essentially independent of operating temperature.)
t _r Rise Time	All			75*	ns	
t _{d(off)} Turn-Off Delay Time	All			40*	ns	
t _f Fall Time	All			45*	ns	

THERMAL RESISTANCE

R _{thJC} Junction-to-Case	All			5.0*	°C/W	
R _{thJA} Junction-to-Ambient	All			170	°C/W	Free Air Operation

BODY-DRAIN DIODE RATINGS AND CHARACTERISTICS

I _S Continuous Source Current (Body Diode)	2N6795			-8*	A	Modified MOS POWER symbol showing the integral P-N junction rectifier. 
	2N6796			-8*	A	
I _{SM} Source Current ¹ (Body Diode)	2N6795			-25	A	
	2N6796			-25	A	
V _{SD} Diode Forward Voltage ¹	2N6795	-0.75*		-1.5*	V	T _C = 25°C, I _S = -8A, V _{GS} = 0
	2N6796	-0.75*		-1.5*	V	T _C = 25°C, I _S = -8A, V _{GS} = 0
t _{rr} Reverse Recovery Time	All		300		ns	T _J = 150°C, I _F = I _S , dI _F /dI _S = 100 A/μs

¹ Pulse Test: Pulse Width < 300 μsec, Duty Cycle < 2%

* JEDEC Registered Values

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