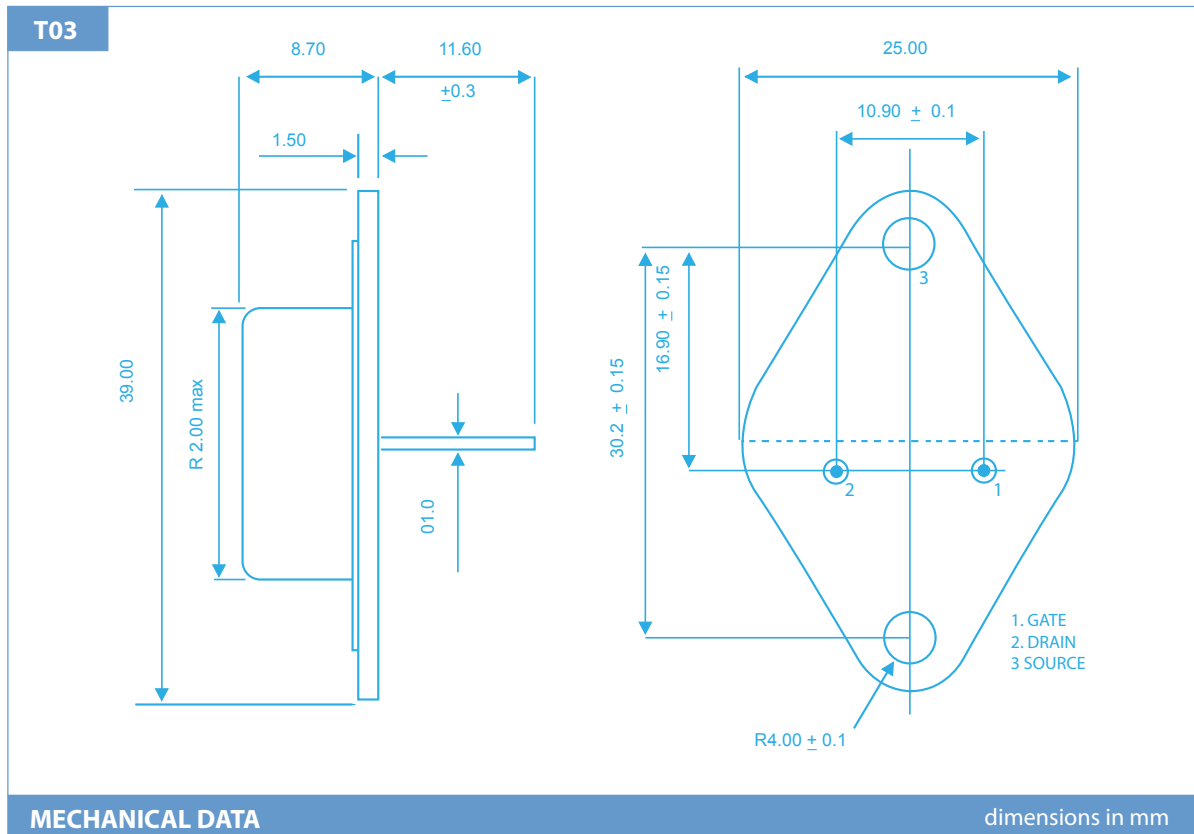


## HIGH POWER 250W HIGH QUALITY AUDIO AMPLIFIER APPLICATIONS

### N & P CHANNEL LATERAL MOSFETs



#### ABSOLUTE MAXIMUM RATINGS

( $T_C = 25^\circ\text{C}$  unless otherwise stated)

(ECF20)20

$V_{DSX}$	Drain – Source Voltage	200V
$V_{GSS}$	Gate – Source Voltage	±14V
$I_D$	Continuous Drain Current	16A
$I_{D(PK)}$	Body Drain Diode	16A
$P_D$	Total Power Dissipation @ ( $T_{case} = 25^\circ\text{C}$ )	250W
$T_{stg}$	Storage Temperature Range	-55 to 150°C
$T_j$	Maximum Operating Junction Temperature	150°C
$R\theta_{JC}$	Thermal Resistance Junction - case	0.5°C/W

Exicon products are available at [www.profusionplc.com](http://www.profusionplc.com)

## STATIC CHARACTERISTICS (T<sub>C</sub>= 25°C unless otherwise stated)

Characteristic	Test Conditions	MIN	TYP	MAX	UNIT
BV <sub>DSX</sub>	Drain – Source Breakdown Voltage ID = 10mA (ECF20)20	200			V
BV <sub>GSS</sub>	Gate – Source Breakdown Voltage VDS = 0 IG=±100uA	±14			V
V <sub>GS(OFF)</sub>	Gate - Source Cut-Off Voltage VDS = 10V ID = 100mA	0.10		1.5	V
V <sub>DS(SAT)</sub> *	Drain - Source Saturation Voltage VGD = 0 ID = 16A			12	V
I <sub>DSX</sub>	Drain - Source Cut - Off Current VGS = -10V			10	mA
	VDS = 160V (ECF20)16 VDS =200V (ECF20)20			10	
Yfs*	Forward Transfer Admittance VDS = 10V ID = 3A	1.4		4	S

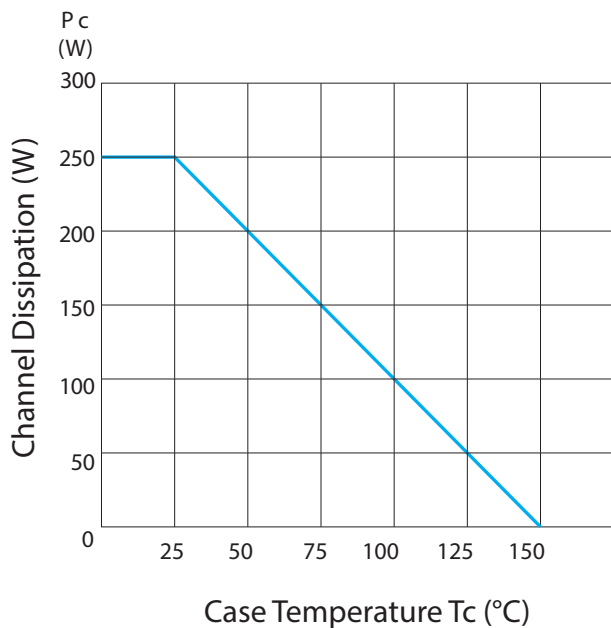
## DYNAMIC CHARACTERISTICS (T<sub>C</sub>= 25°C unless otherwise stated)

Characteristic	Test Conditions	N-Channel	P-Channel	UNIT
C <sub>iss</sub>	Input Capacitance	950	1900	
C <sub>oss</sub>	Output Capacitance VDS= 10V f = 1MHz	550	900	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	20	60	
t <sub>on</sub>	Turn-on Time VDS= 20V ID = 7A	160	150	ns
t <sub>off</sub>	Turn-off Time	80	110	

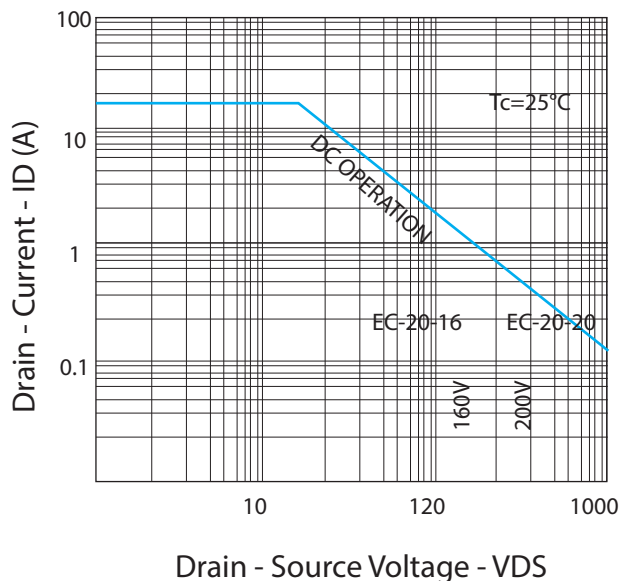
\* Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2%

## Typical Characteristics for 250W devices

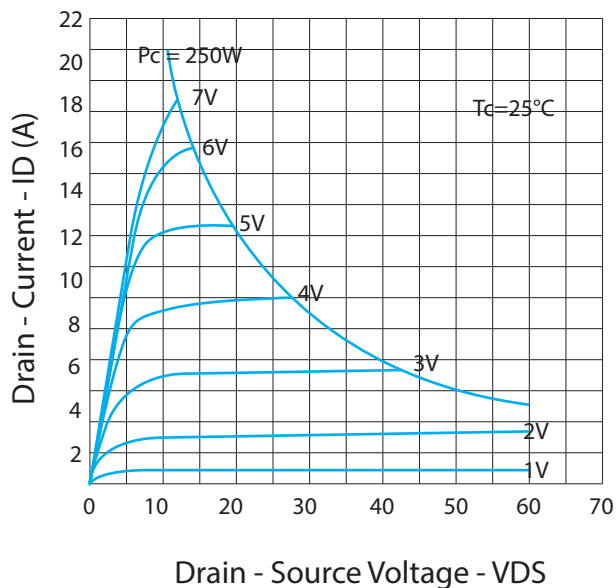
### Power vs. Temperature Derating



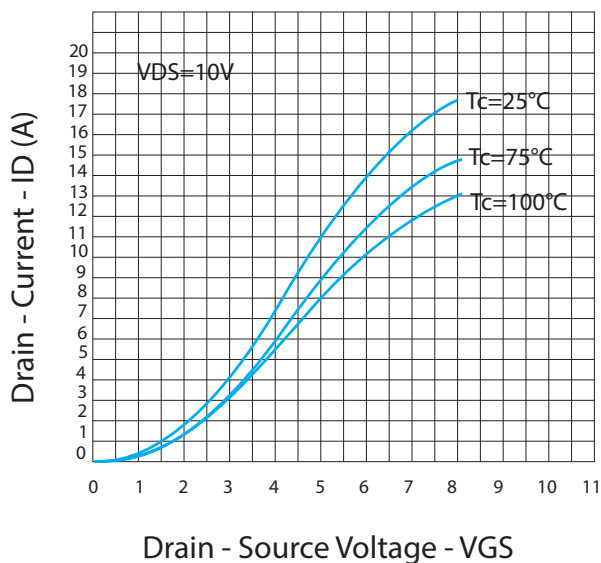
### Maximum Safe Operating Area



### Typical Output (N-Channel)



### Typical Transfer Characteristics (N-Channel)



## Typical Characteristics for 250W devices (cont.)

### Forward Transfer Admittance (N-Channel)

