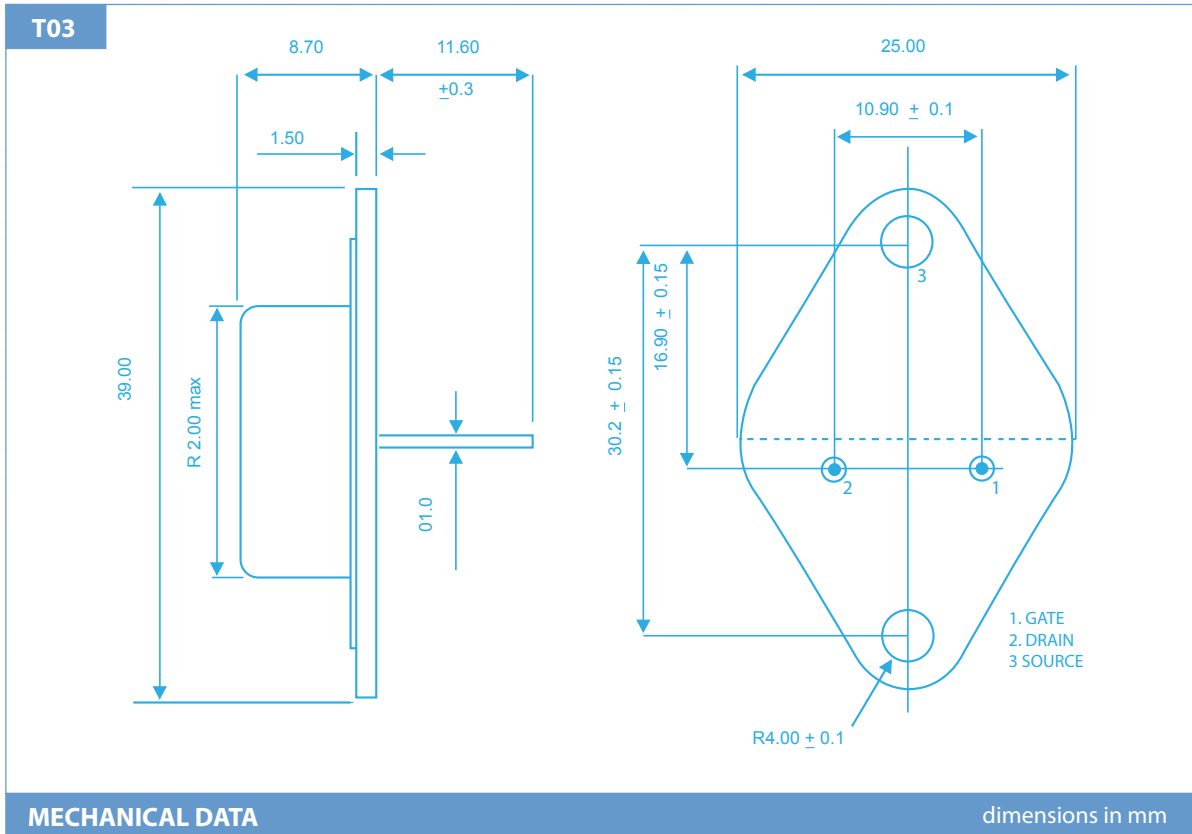


HIGH POWER 250W HIGH QUALITY AUDIO AMPLIFIER APPLICATIONS

N & P CHANNEL LATERAL MOSFETs

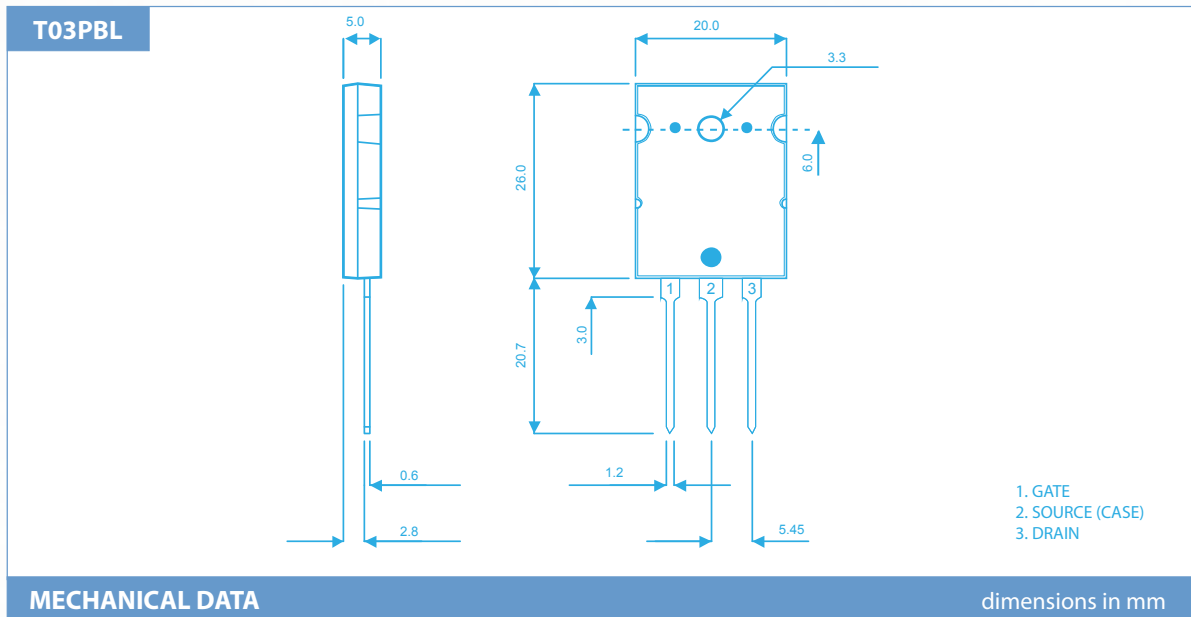


ABSOLUTE MAXIMUM RATINGS

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

(EC-20)16 (EC-20)20

Parameter	Description	(EC-20)16	(EC-20)20
V_{DSX}	Drain – Source Voltage	160V	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	



STATIC CHARACTERISTICS (T_C= 25°C unless otherwise stated)

Characteristic	Test Conditions	MIN	TYP	MAX	UNIT	
BV _{DSX}	Drain – Source Breakdown Voltage	V _{GS} = -10V	(EC-20)16	160	V	
		I _D = 10mA	(EC-20)20	200	V	
BV _{GSS}	Gate – Source Breakdown Voltage	V _{DS} = 0	I _G =±100uA	±14	V	
V _{GS(OFF)}	Gate - Source Cut-Off Voltage	V _{DS} = 10V	I _D = 100mA	0.10	1.5	V
V _{DS(SAT)*}	Drain - Source Saturation Voltage	V _{GD} = 0	I _D = 16A		12	V
I _{DSX}	Drain - Source Cut - Off Current		V _{DS} = 160V		10	mA
			(EC-20)16			
		V _{GS} = -10V	V _{DS} = 200V		10	
			(EC-20)20			
Y _{fs} *	Forward Transfer Admittance	V _{DS} = 10V	I _D = 3A	1.4	4	S

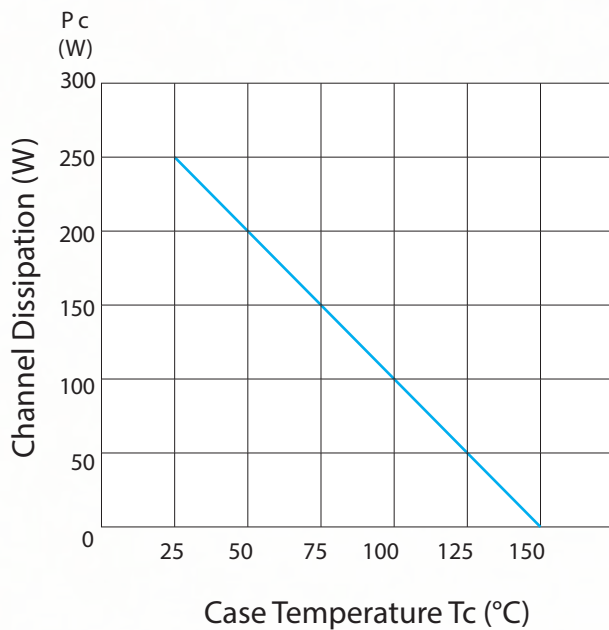
DYNAMIC CHARACTERISTICS (T_C= 25°C unless otherwise stated)

Characteristic	Test Conditions	N-Channel	P-Channel	UNIT	
C _{iss}	Input Capacitance	950	1900		
C _{oss}	Output Capacitance	V _{DS} = 10V f = 1MHz	550	900	pF
C _{rss}	Reverse Transfer Capacitance	20	60		
t _{on}	Turn-on Time	V _{DS} = 20V	160	150	ns
t _{off}	Turn-off Time	I _D = 7A	80	110	

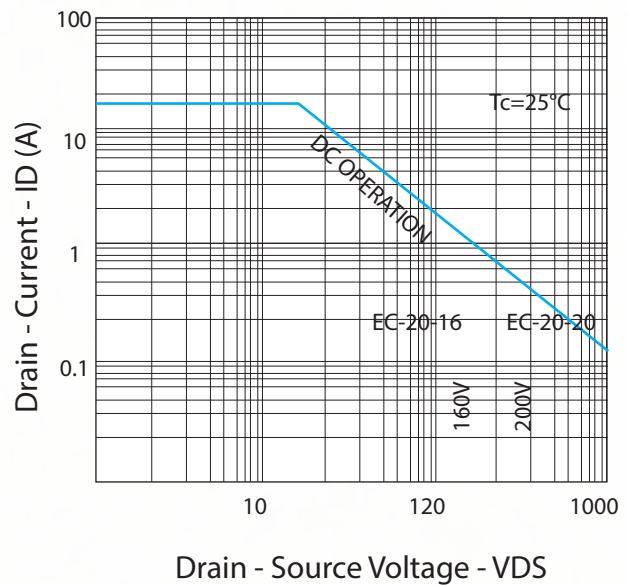
* Pulse Test: Pulse Width = 300µs, Duty Cycle ≤ 2%

Typical Characteristics for 250W devices

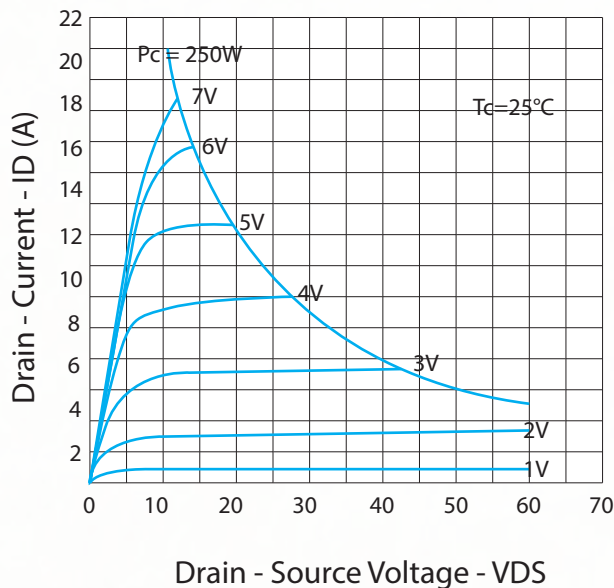
Power vs. Temperature Derating



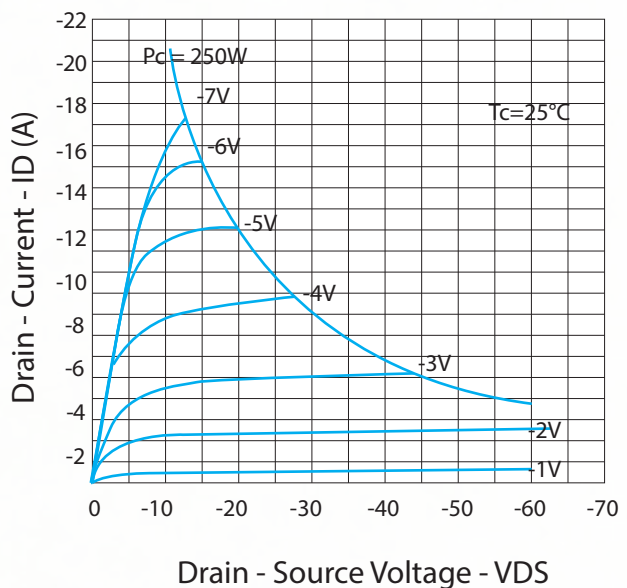
Maximum Safe Operating Area



Typical Output (N-Channel)

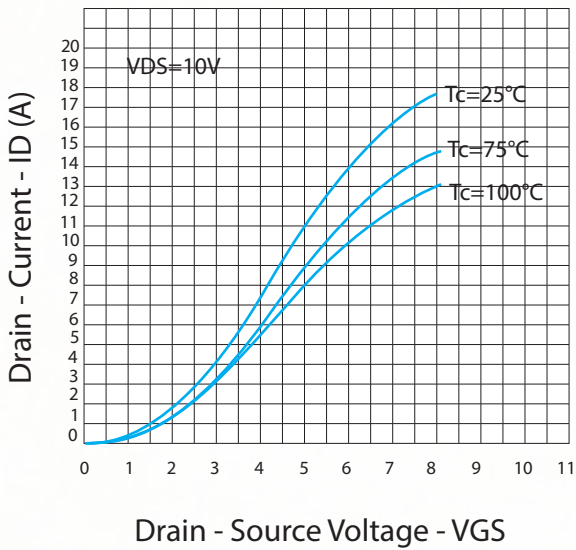


Typical Output (P-Channel)

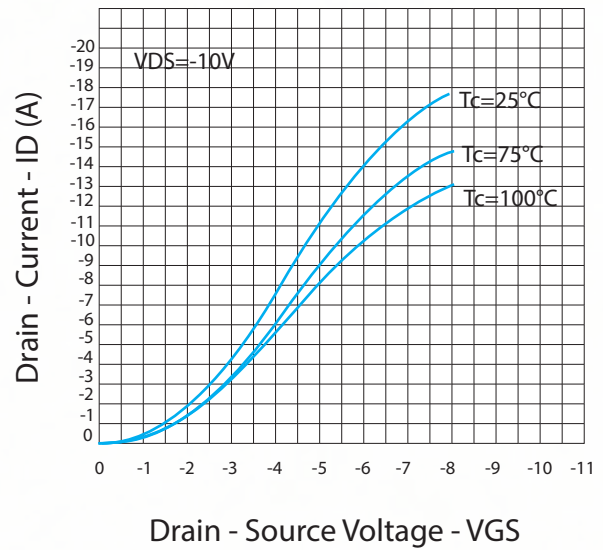


Typical Characteristics for 250W devices (cont.)

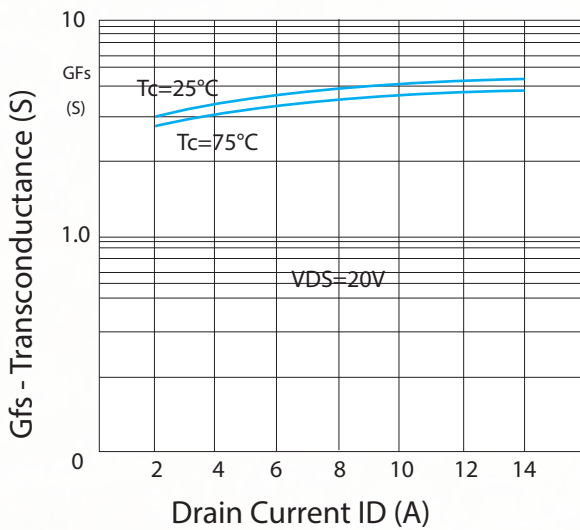
Typical Transfer Characteristics (N-Channel)



Typical Transfer Characteristics (P-Channel)



Forward Transfer Admittance (N-Channel)



Forward Transfer Admittance (P-Channel)

