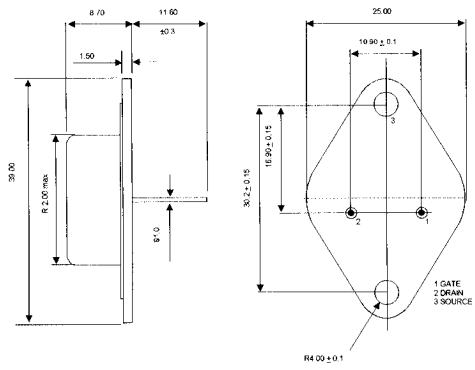
EC-20N16/20
EC-20P16/20

N AND P CHANNEL LATERAL MOSFETS

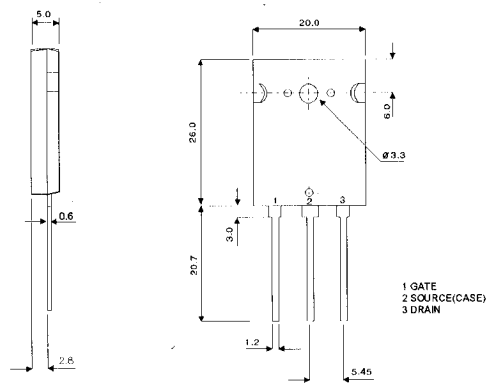
HIGH POWER 250W
HIGH QUALITY AUDIO AMPLIFIER APPLICATIONS

Mechanical Data
Dimensions in mm

TO3



TO3PBL



ABSOLUTE MAXIMUM RATING (T case = 25°C unless otherwise stated)		(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°C)	250W	
T_{stg}	Storage Temperature Range	-55 to 150°C	
T_j	Maximum Operating Junction Temperature	150°C	
RθJC	Thermal Resistance Junction - case	0.5°C/W	

STATIC CHARACTERISTICS (T case = 25°C unless othenwise stated)

Characteristic		Test Conditions		MIN	TYP	MAX	UNIT
BV_{DSX}	Drain - Source Breakdown Voltage	VGS = -10V ID = 10mA	(EC-20)16	160			V
			(EC-20)20	200			V
BV_{GSS}	Gate - Source Breakdown Voltage	VDS = 0	IG =±100uA	±14			V
$V_{GS(OFF)}$	Gate-Source Cut-Off Voltage	VDS= 10V	ID= 100mA	0.10		1.5	V
$V_{DS(SAT)}$*	Drain - Source Saturation Voltage	VGD = 0	ID = 16A			12	V
I_{DSX}	Drain - Source Cut - Off Current	VGS =-10V	VDS = 160V (EC-20)16			10	mA
			VDS =200V (EC-20)20			10	
Yfs*	Forward Transfer Admittance	VDS = 10V	ID = 3A	1.4		4	S

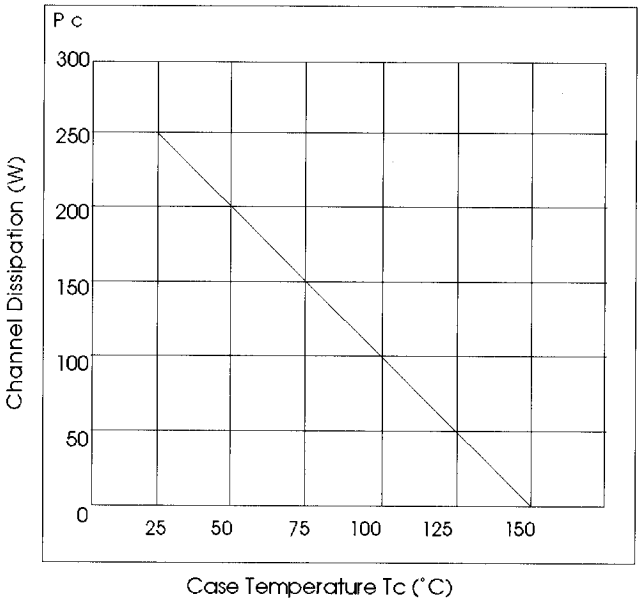
DYNAMIC CHARACTERISTICS (T case = 25°C unless otherwise stated)

Characteristic		Test Conditions	N-Channel (TYPICAL)	P-Channel (TYPICAL)	UNIT
C_{iss}	Input Capacitance	VDS= 10V f = 1 MHz	950	1900	pF
C_{oss}	Output Capacitance		550	900	
C_{rss}	Reverse Transfer Capacitance		20	60	
t_{on}	Turn-on Time	VDS= 20V ID = 7A	160	150	ns
t_{off}	Turn-off Time		80	110	

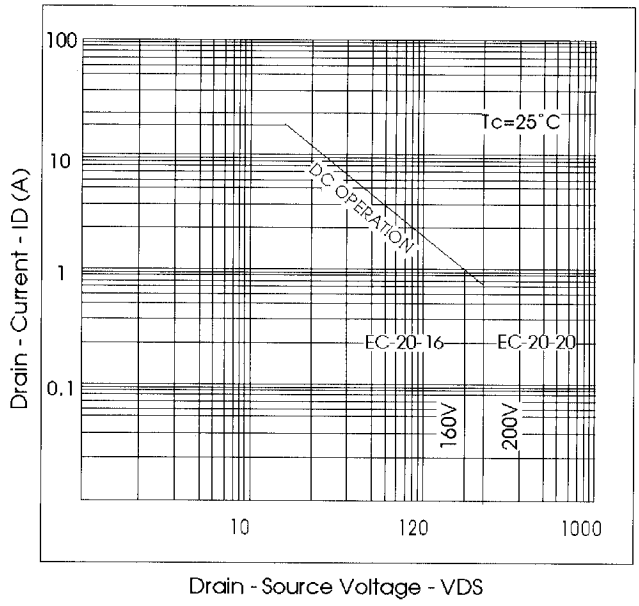
*Pulse Test: Pulse width = 300uS, Duty Cycle ≤2 %

Typical Characteristics for 250W Devices.

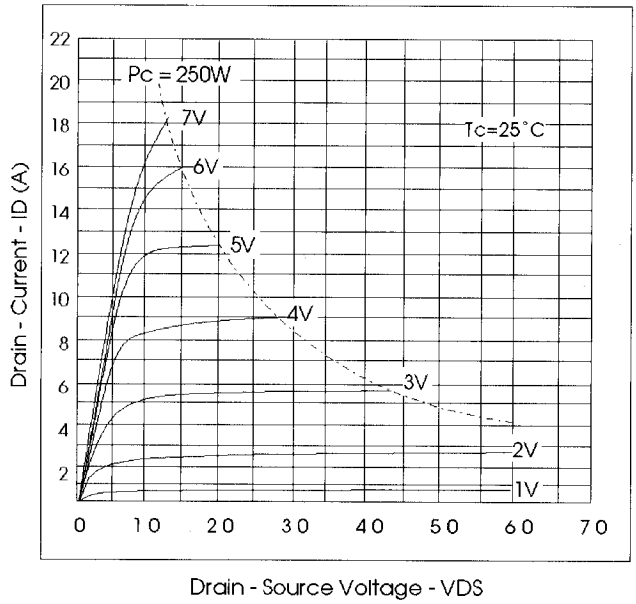
Power vs. Temperature Derating



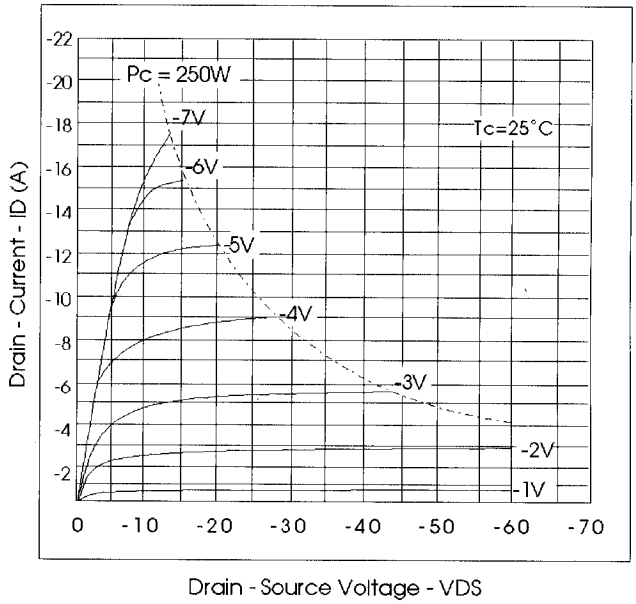
Maximum Safe Operating Area



Typical Output (N-Channel)

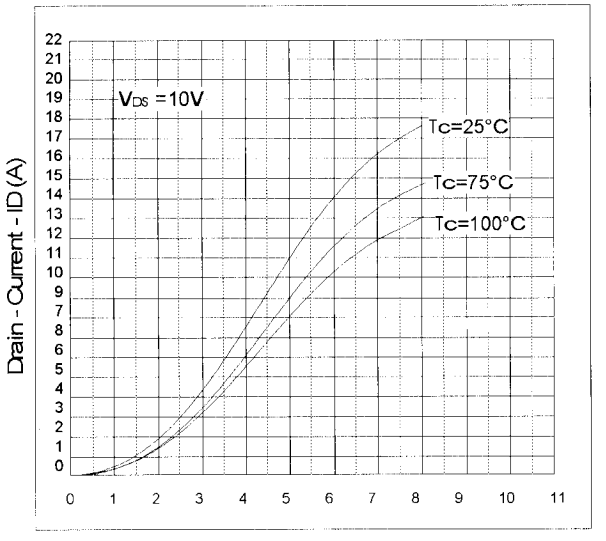


Typical Output (P-Channel)

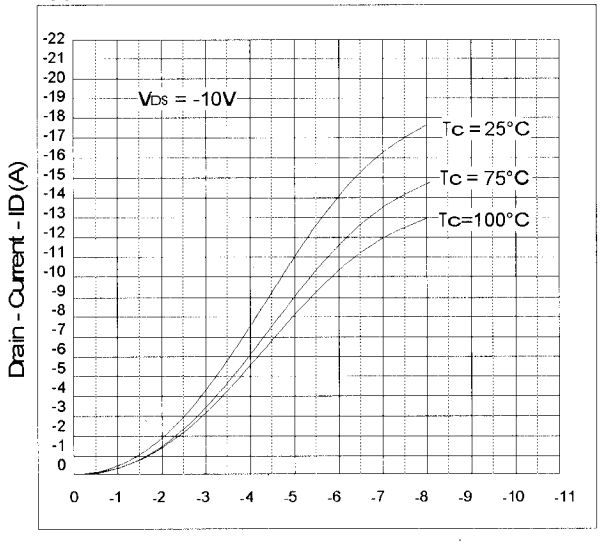


Typical Characteristics for 250W Devices (cont.)

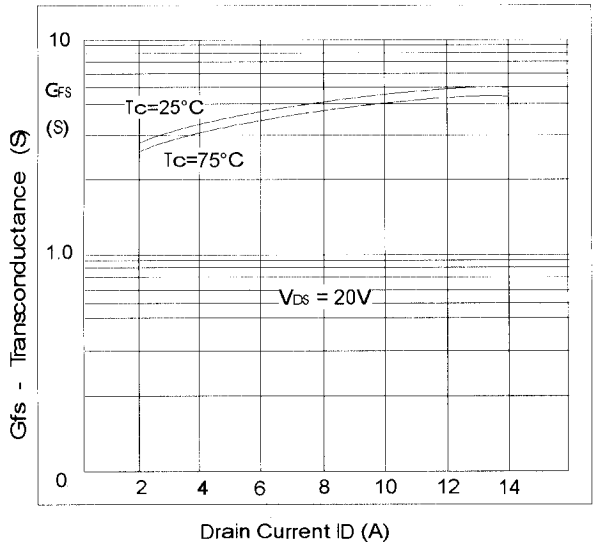
Typical Transfer Characteristics (N-Channel)



Typical Transfer Characteristics (P-Channel)



Forward Transfer Admittance (N-Channel)



Forward Transfer Admittance (P-Channel)