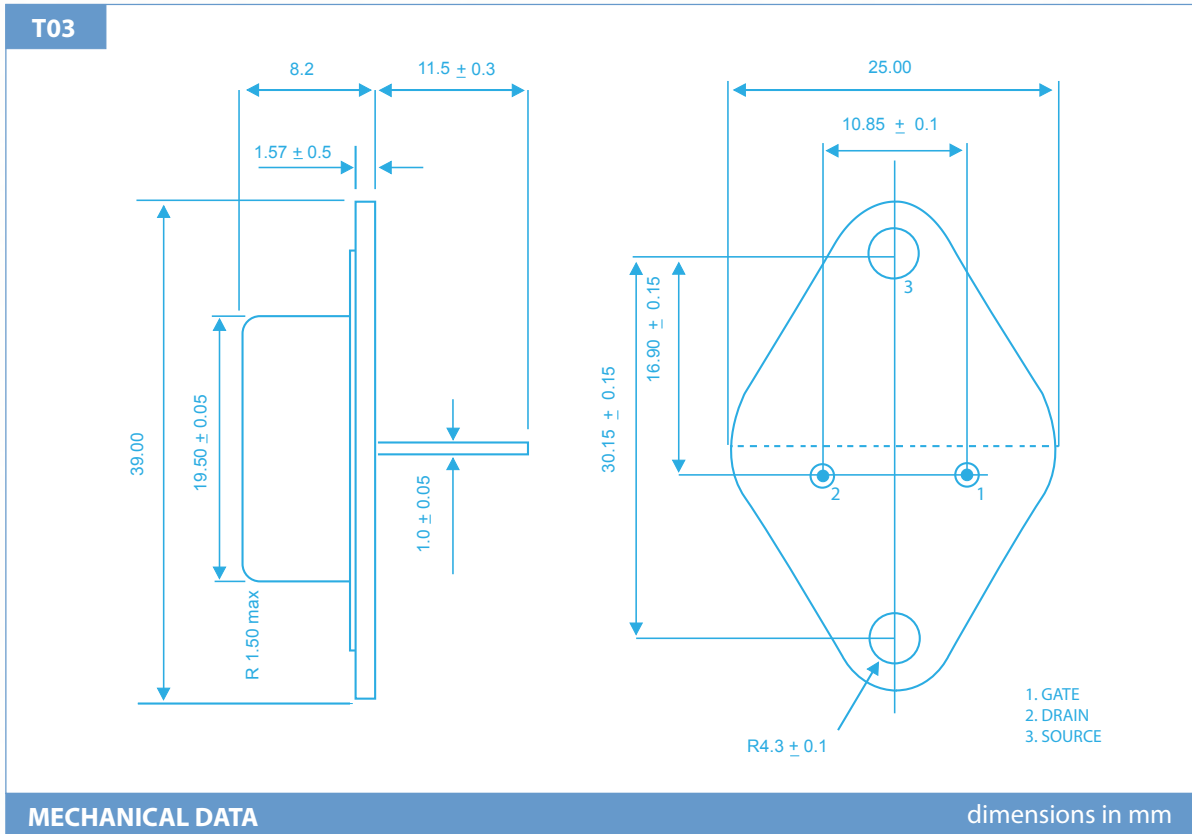


HIGH POWER 125W HIGH QUALITY AUDIO AMPLIFIER APPLICATIONS

N & P CHANNEL LATERAL MOSFETs

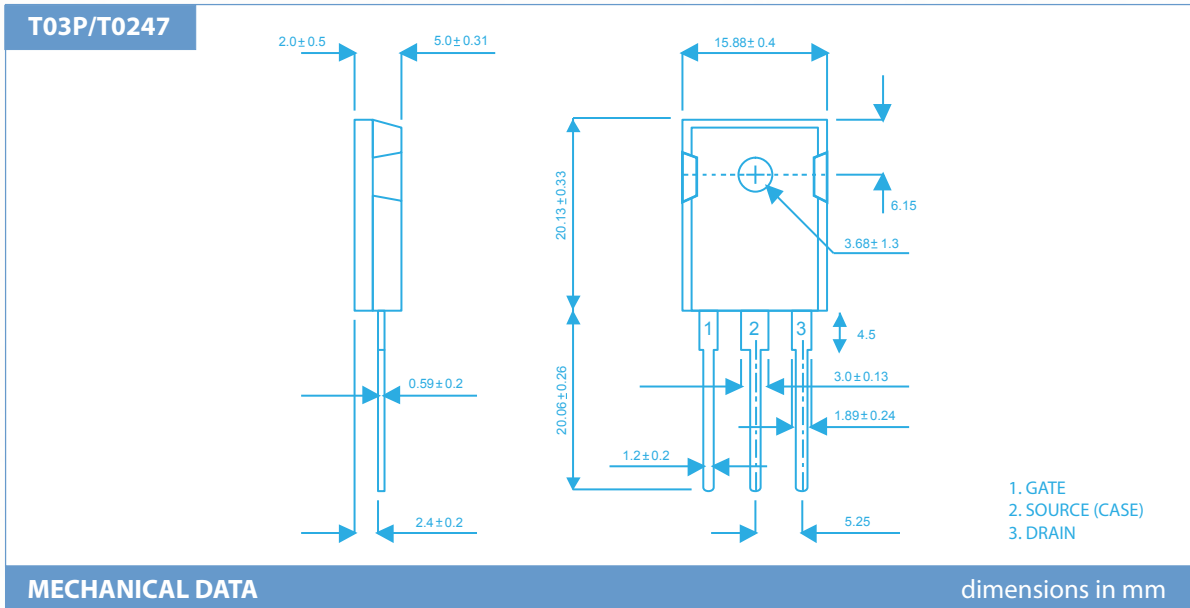


ABSOLUTE MAXIMUM RATINGS

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

(EC-10)16 (EC-10)20

Parameter	Description	(EC-10)16	(EC-10)20
V_{DSX}	Drain – Source Voltage	160V	200V
V_{GSS}	Gate – Source Voltage	±14V	
I_D	Continuous Drain Current	8A	
$I_{D(PK)}$	Body Drain Diode	8A	
P_D	Total Power Dissipation @ ($T_{case} = 25^\circ\text{C}$)	125W	
T_{stg}	Storage Temperature Range	-55 to 150°C	
T_j	Maximum Operating Junction Temperature	150°C	
$R\theta_{JC}$	Thermal Resistance Junction - case	1.0°C/W	



STATIC CHARACTERISTICS

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

Characteristic	Test Conditions	MIN	TYP	MAX	UNIT	
BV_{DSX}	Drain - Source Breakdown Voltage	$V_{GS} = -10\text{V}$	(EC-10)16	160	V	
		$I_D = 10\text{mA}$	(EC-10)20	200	V	
BV_{GSS}	Gate - Source Breakdown Voltage	$V_{DS} = 0$	$I_G = \pm 100\mu\text{A}$	± 14	V	
$V_{GS(OFF)}$	Gate - Source Cut-Off Voltage	$V_{DS} = 10\text{V}$	$I_D = 100\text{mA}$	0.15	1.5	V
$V_{DS(SAT)}^*$	Drain - Source Saturation Voltage	$V_{GD} = 0$	$I_D = 8\text{A}$	12	V	
I_{DSX}	Drain - Source Cut - Off Current		$V_{DS} = 160\text{V}$	10	mA	
			(EC-10)16			
			$V_{GS} = -10\text{V}$	$V_{DS} = 200\text{V}$		10
			(EC-10)20			
Y_{fs}^*	Forward Transfer Admittance	$V_{DS} = 10\text{V}$	$I_D = 3\text{A}$	0.7	2	S

DYNAMIC CHARACTERISTICS

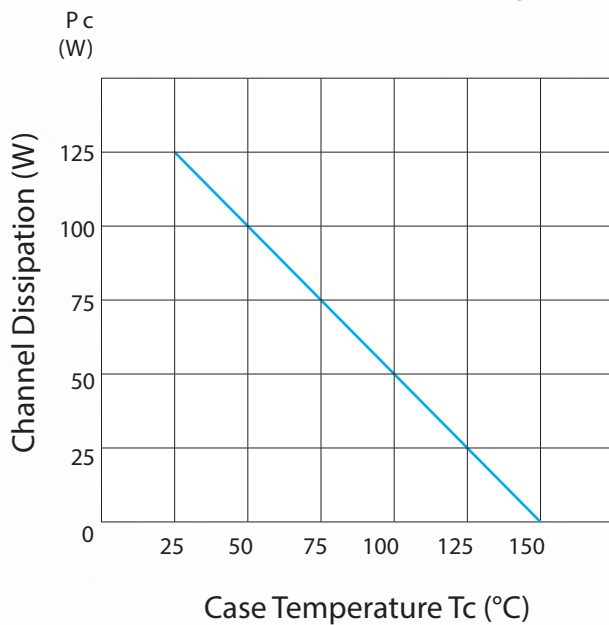
($T_C = 25^\circ\text{C}$ unless otherwise stated)

Characteristic	Test Conditions	N-Channel	P-Channel	UNIT
C_{iss}	Input Capacitance	500	700	
C_{oss}	Output Capacitance	300	300	pF
	$V_{DS} = 10\text{V}$ $f = 1\text{MHz}$			
C_{rss}	Reverse Transfer Capacitance	10	25	
t_{on}	Turn-on Time	100	120	ns
	$V_{DS} = 20\text{V}$			
t_{off}	Turn-off Time	50	60	
	$I_D = 7\text{A}$			

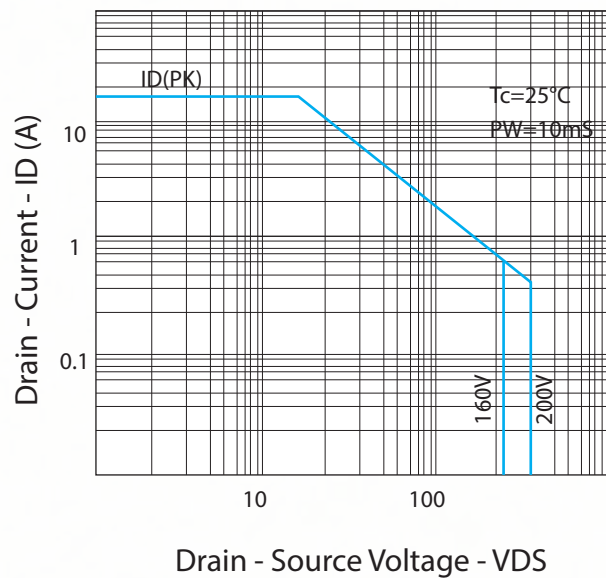
* Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2\%$

Typical Characteristics for 125W devices

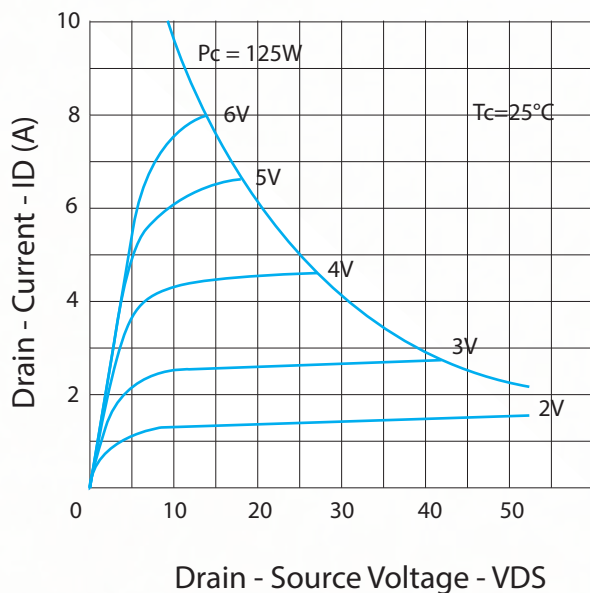
Power vs. Temperature Derating



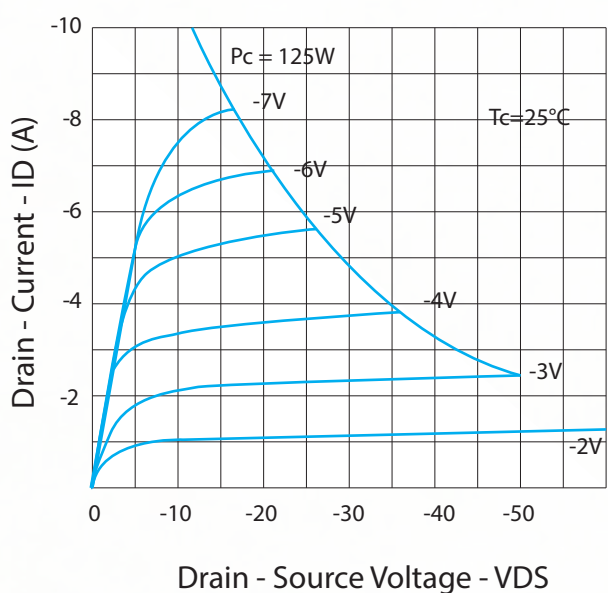
Maximum Safe Operating Area



Typical Output (N-Channel)

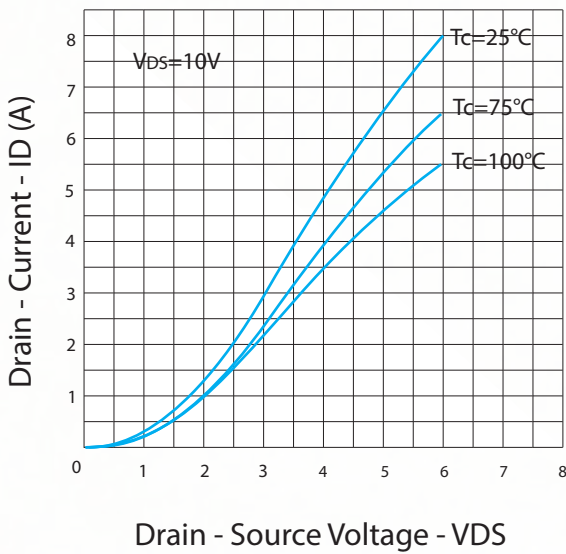


Typical Output (P-Channel)

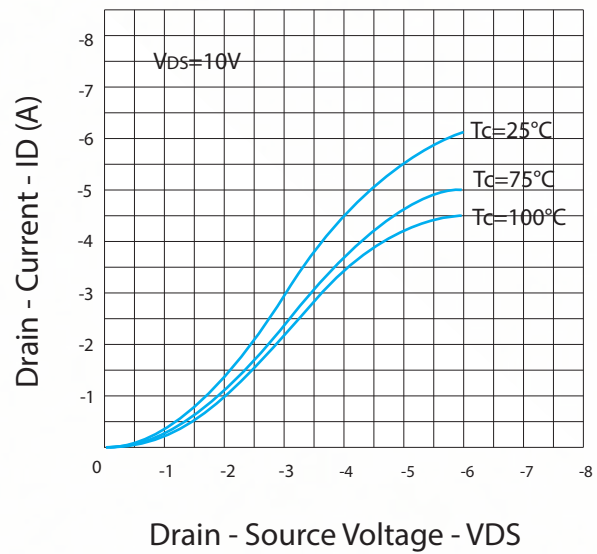


Typical Characteristics for 125W devices (cont.)

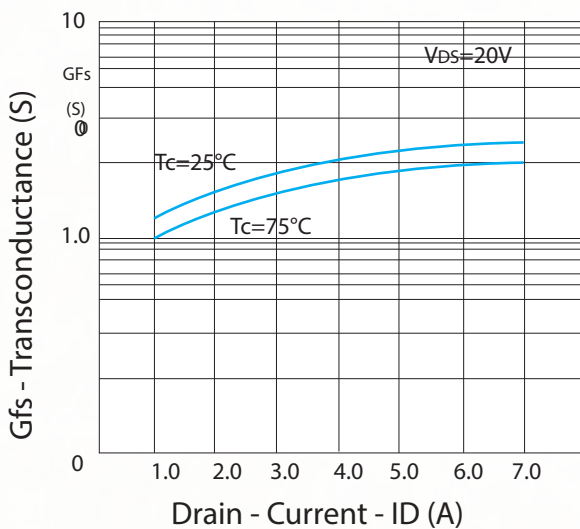
Typical Transfer Characteristics (N-Channel)



Typical Transfer Characteristics (P-Channel)



Forward Transfer Admittance (N-Channel)



Forward Transfer Admittance (P-Channel)

