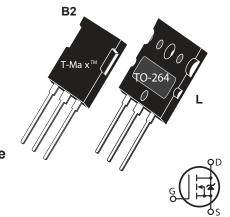
500V 58A 0.090Ω

LINEAR MOSFET

Linear Mosfets are optimized for applications operating in the Linear region where concurrent high voltage and high current can occur at near DC conditions (>100 msec).

- Higher FBSOA
- Popular T-MAX™ or TO-264 Package
- Higher Power Dissipation
- RoHS Compliant



MAXIMUM RATINGS

All Ratings: T_C = 25°C unless otherwise specified.

Symbol	Parameter	APL502B2_L(G)	UNIT	
V _{DSS}	Drain-Source Voltage	500	Volts	
I _D	Continuous Drain Current @ T _C = 25°C	58	Amps	
I _{DM}	Pulsed Drain Current 1	232	Allips	
V_{GS}	Gate-Source Voltage Continuous	±30	Volts	
V_{GSM}	Gate-Source Voltage Transient	±40	VOILS	
P _D	Total Power Dissipation @ T _C = 25°C	730	Watts	
' D	Linear Derating Factor	5.84	W/°C	
T_J , T_{STG}	Operating and Storage Junction Temperature Range	-55 to 150	°C	
T _L	Lead Temperature: 0.063" from Case for 10 Sec.	300		
I _{AR}	Avalanche Current (1) (Repetitive and Non-Repetitive)	58	Amps	
E _{AR}	Repetitive Avalanche Energy 1	50	mJ	
E _{AS}	Single Pulse Avalanche Energy ⁽⁴⁾	3000	1110	

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions / Part Number	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage (V_{GS} = 0V, I_D = 250 μ A)	500			Volts
I _D (ON)	On State Drain Current $^{\textcircled{2}}(V_{DS} > I_{D}(ON) \times R_{DS}(ON) \text{ Max, } V_{GS} = 15V)$	58			Amps
R _{DS} (ON)	Drain-Source On-State Resistance ^② (V _{GS} = 15V, 29A)			0.09	Ohms
I _{DSS}	Zero Gate Voltage Drain Current ($V_{DS} = 500V, V_{GS} = 0V$)			25	μA
	Zero Gate Voltage Drain Current (V _{DS} = 400V, V _{GS} = 0V, T _C = 125°C)			250	
I _{GSS}	Gate-Source Leakage Current (V _{GS} = ±30V, V _{DS} = 0V)			±100	nA
V _{GS} (TH)	Gate Threshold Voltage $(V_{DS} = V_{GS}, I_{D} = 2.5 \text{mA})$	2		4	Volts

CAUTION: These Devices are Sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed.

DYNAMIC CHARACTERISTICS

Symbol	Characteristic	Test Conditions	MIN	TYP	MAX	UNIT
C _{iss}	Input Capacitance	V _{GS} = 0V		7485	9000	
C _{oss}	Output Capacitance	V _{DS} = 25V		1290	1810	pF
C _{rss}	Reverse Transfer Capacitance	f = 1 MHz		617	930	
t _d (on)	Turn-on Delay Time	V _{GS} = 15V		13	26	
t _r	Rise Time	V _{DD} = 250V		27	54	ns
t _d (off)	Turn-off Delay Time	I _D = 29A @ 25°C		56	84	
t _f	Fall Time	$R_G = 0.6\Omega$		16	20	

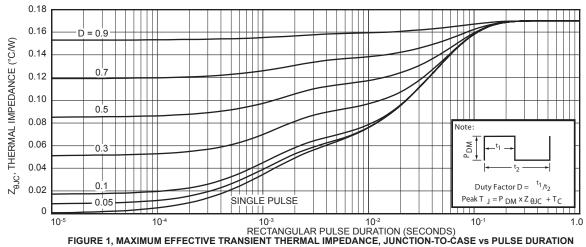
THERMAL CHARACTERISTICS

Symbol	Characteristic	MIN	TYP	MAX	UNIT
R _{eJC}	Junction to Case			.17	°C/W
W _T	Package Weight		0.22		OZ
			5.9		g

 $^{^{\}scriptsize \textcircled{\scriptsize 1}}$ Repetitive Rating: Pulse width limited by maximum junction temperature.

 $\stackrel{\textcircled{3}}{=}$ See MIL-STD-750 Method 3471 $\stackrel{\textcircled{4}}{=}$ Starting T $_{\rm I}$ = +25°C, L = 1.78mH, R $_{\rm G}$ = 25 Ω , Peak I $_{\rm L}$ = 58A

Microsemi reserves the right to change, without notice, the specifications and information contained herein.



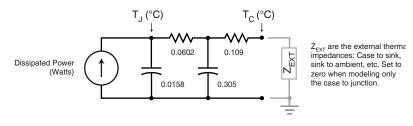
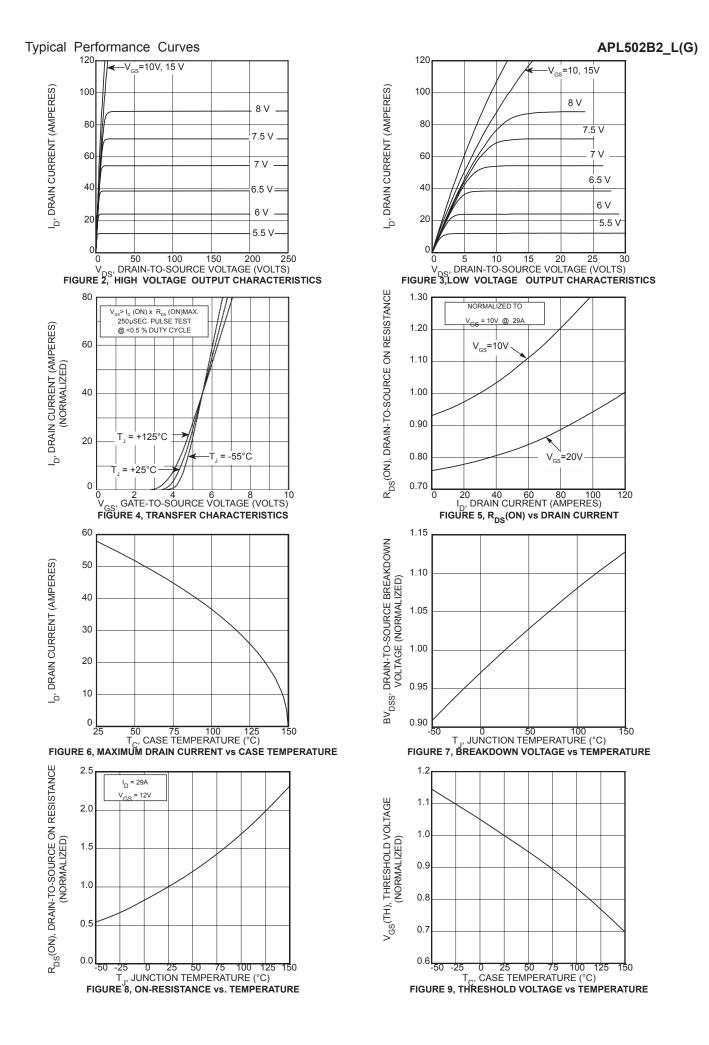
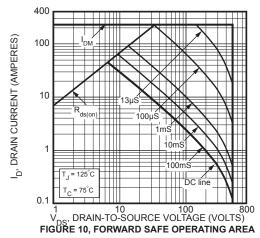
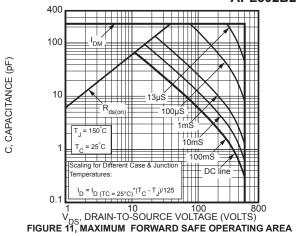


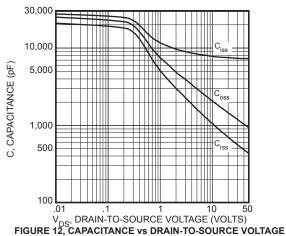
FIGURE 1a, TRANSIENT THERMAL IMPEDANCE MODEL

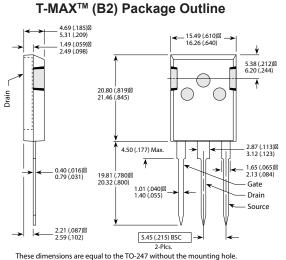
② Pulse Test: Pulse width < 380 μS, Duty Cycle < 2%

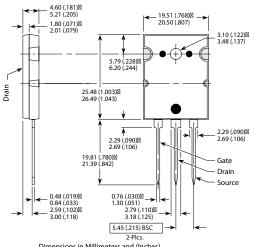












TO-264 (L) Package Outline

These dimensions are equal to the TO-247 without the mounting hole Dimensions in Millimeters and (Inches)

Dimensions in Millimeters and (Inches)

Disclaimer:

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