

P-Channel Power MOSFET -30V, -55A, 13mΩ, Single ATPAK

Features

- Low ON-resistance
- Slim package
- Halogen free compliance
- Large current
- 4.5V drive
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-55	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	-165	A
Allowable Power Dissipation	P _D	T _c =25°C	50	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E _{AS}		57	mJ
Avalanche Current *2	I _{AV}		-28	A

Note : *1 V_{DD}=-10V, L=100μH, I_{AV}=-28A

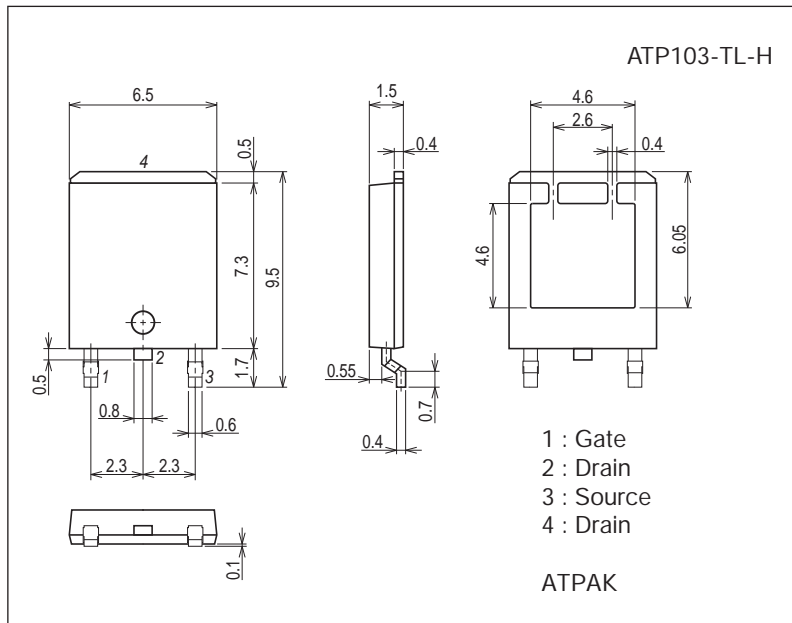
*2 L≤100μH, Single pulse

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

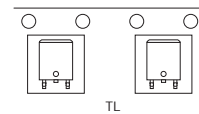
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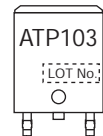
Product & Package Information

- Package : ATPAK
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

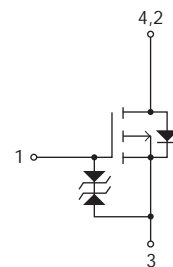
Packing Type: TL



Marking



Electrical Connection

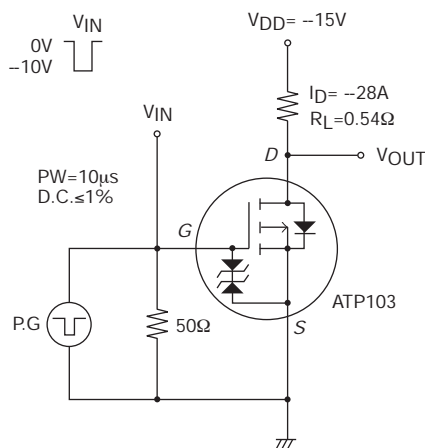


ATP103

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-28A		45		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-28A, V _{GS} =-10V		10	13	mΩ
	R _{DS(on)2}	I _D =-14A, V _{GS} =-4.5V		14.5	20.5	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		2430		pF
Output Capacitance	C _{oss}			555		pF
Reverse Transfer Capacitance	C _{rss}			395		pF
Turn-ON Delay Time	t _{d(on)}			19		ns
Rise Time	t _r	See specified Test Circuit.		400		ns
Turn-OFF Delay Time	t _{d(off)}			150		ns
Fall Time	t _f			145		ns
Total Gate Charge	Q _g			47		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-15V, V _{GS} =-10V, I _D =-55A		10		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			8.7		nC
Diode Forward Voltage	V _{SD}		I _S =-55A, V _{GS} =0V	-1.03	-1.5	

Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP103-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free

