



ATP106 — P-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

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}		-40	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-30	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	-90	A
Allowable Power Dissipation	P _D	Tc=25°C	40	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E _{AS}		30	mJ
Avalanche Current *2	I _{AV}		-15	A

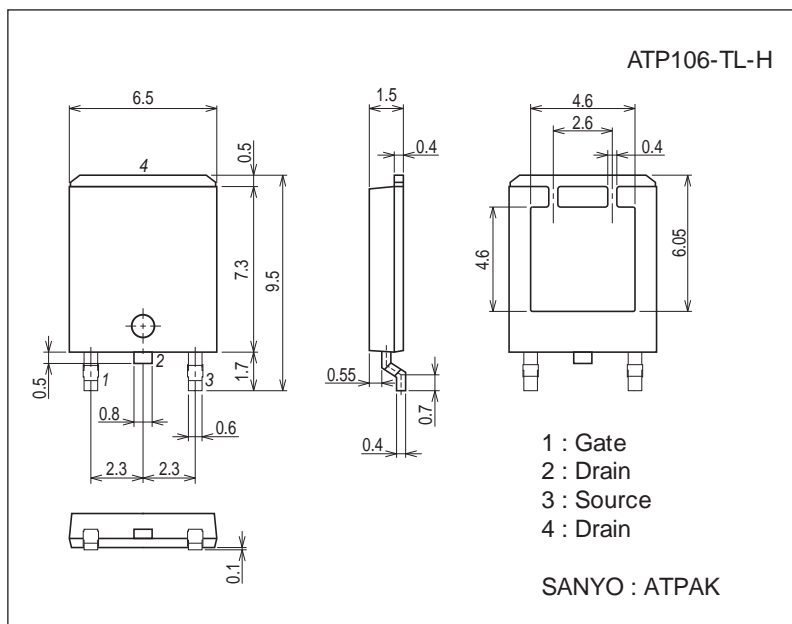
Note : *1 V_{DD}=-10V, L=200μH, I_{AV}=-15A

*2 L≤200μH, Single pulse

Package Dimensions

unit : mm (typ)

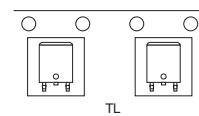
7057-001



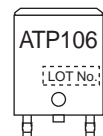
Product & Package Information

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

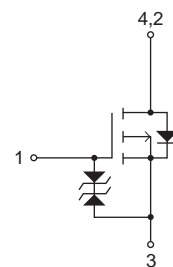
Packing Type: TL



Marking



Electrical Connection

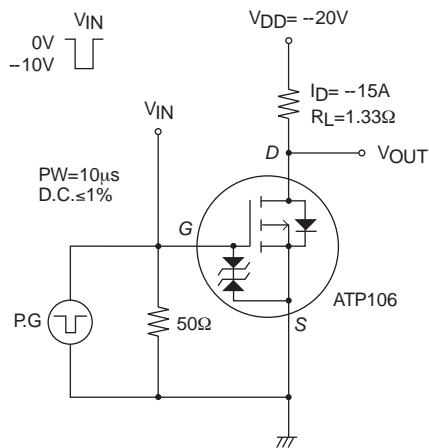


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Electrical Characteristics at Ta=25°C

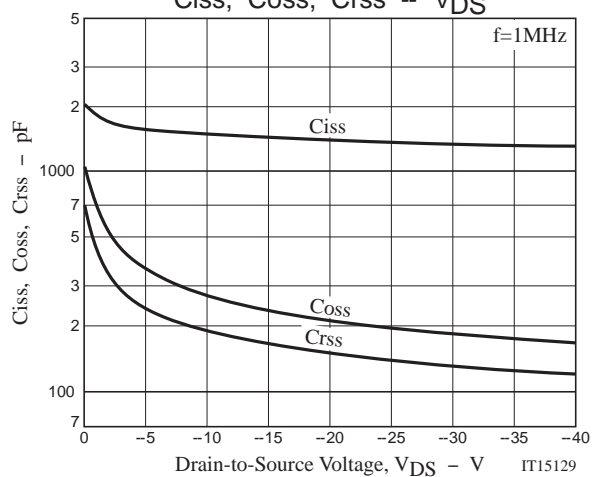
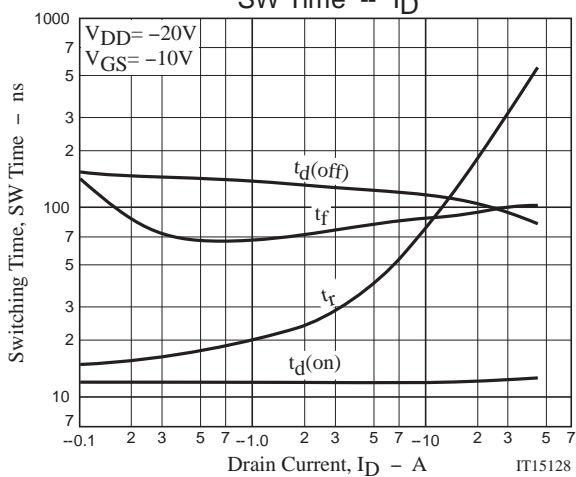
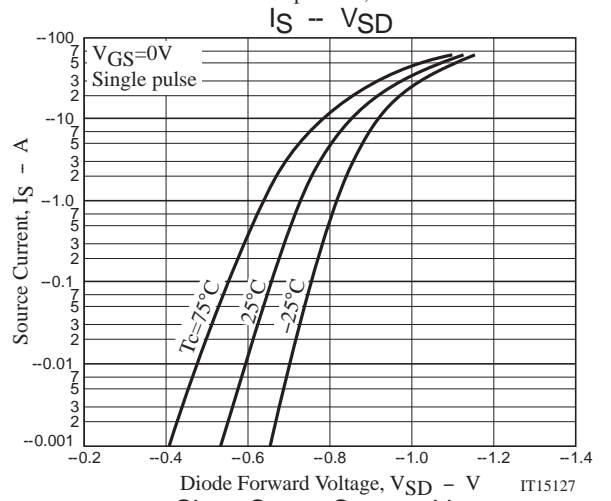
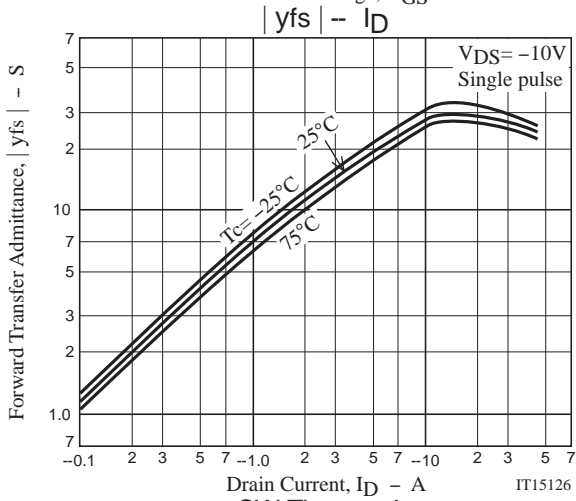
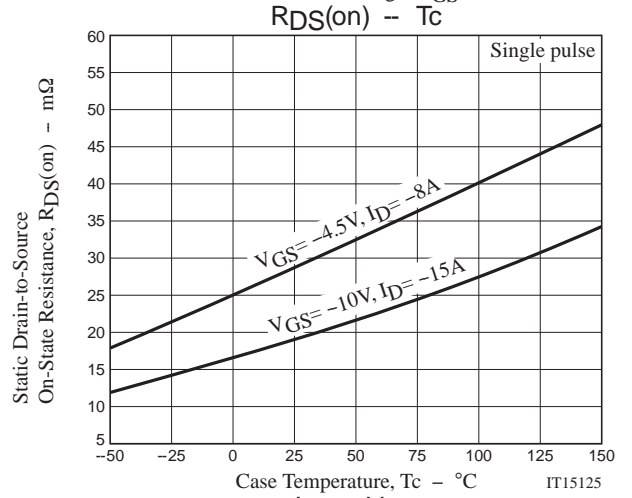
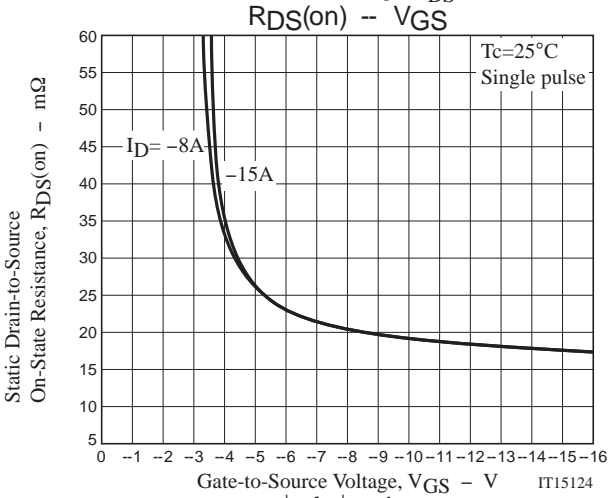
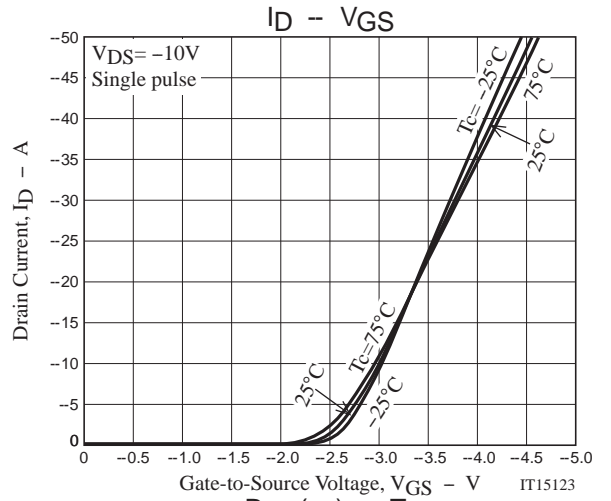
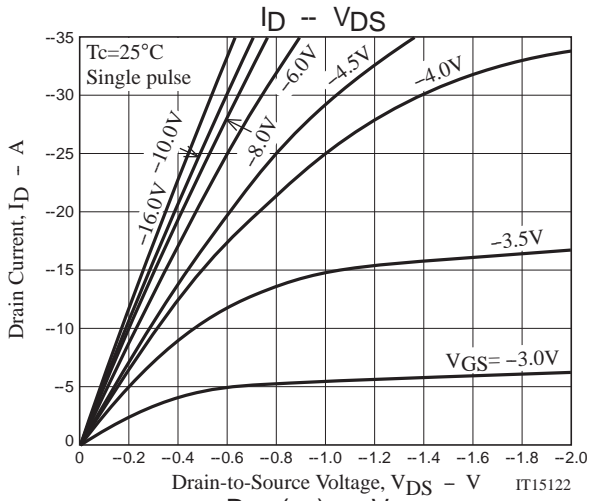
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-40			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-40V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.5		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-15A		28		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-15A, VGS=-10V		19	25	mΩ
	RDS(on)2	ID=-8A, VGS=-4.5V		29	41	mΩ
Input Capacitance	Ciss	VDS=-20V, f=1MHz		1380		pF
Output Capacitance	Coss			210		pF
Reverse Transfer Capacitance	Crss			150		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		12		ns
Rise Time	tr			120		ns
Turn-OFF Delay Time	td(off)			110		ns
Fall Time	tf			90		ns
Total Gate Charge	Qg	VDS=-20V, VGS=-10V, ID=-30A		29		nC
Gate-to-Source Charge	Qgs			6.4		nC
Gate-to-Drain "Miller" Charge	Qgd			5.9		nC
Diode Forward Voltage	VSD	IS=-30A, VGS=0V		-0.97	-1.5	V

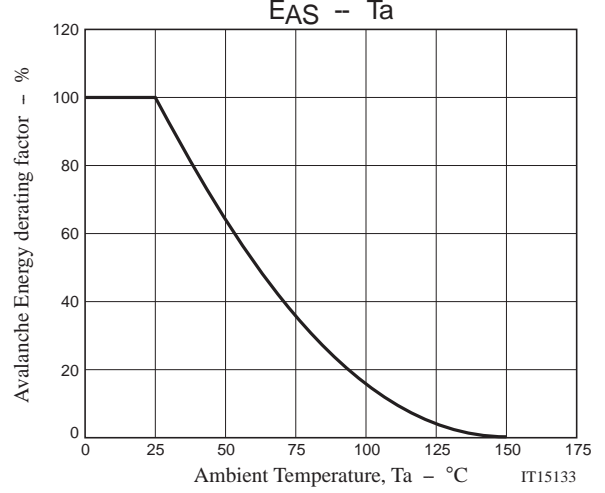
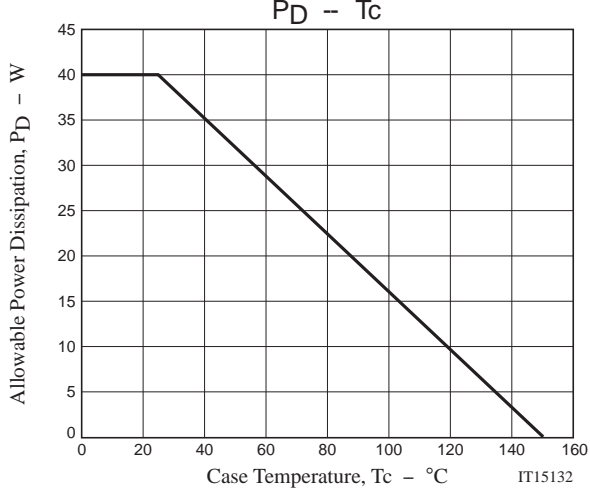
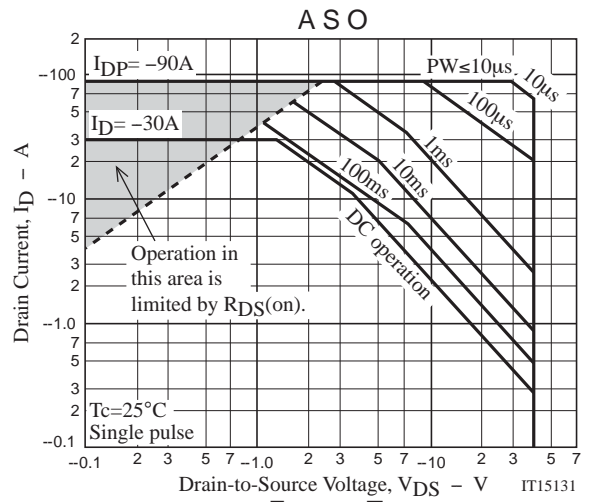
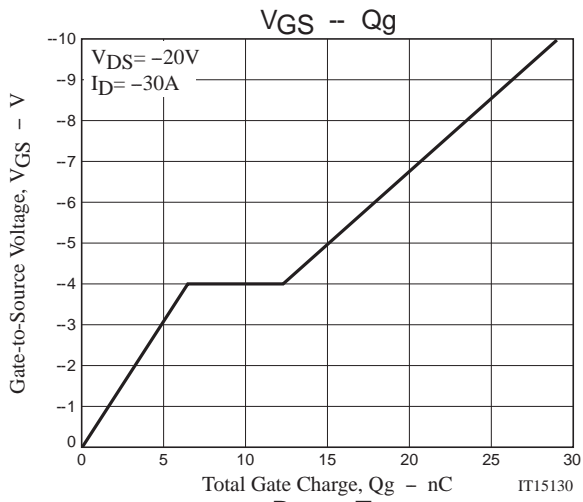
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP106-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





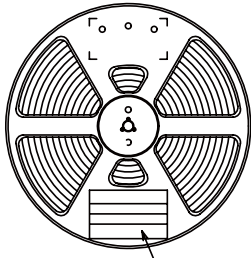
Taping Specification

ATP106-TL-H

1. Packing Format (TL)

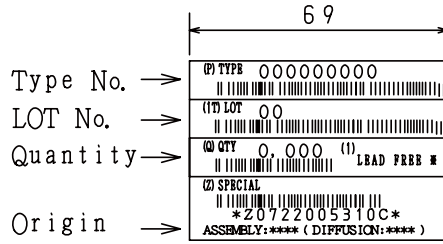
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



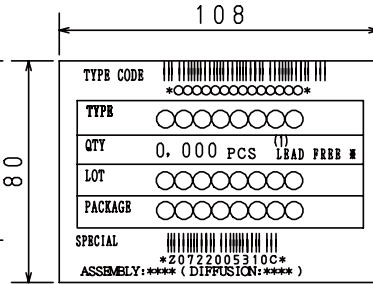
Reel label

Reel label, Inner box label
(unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



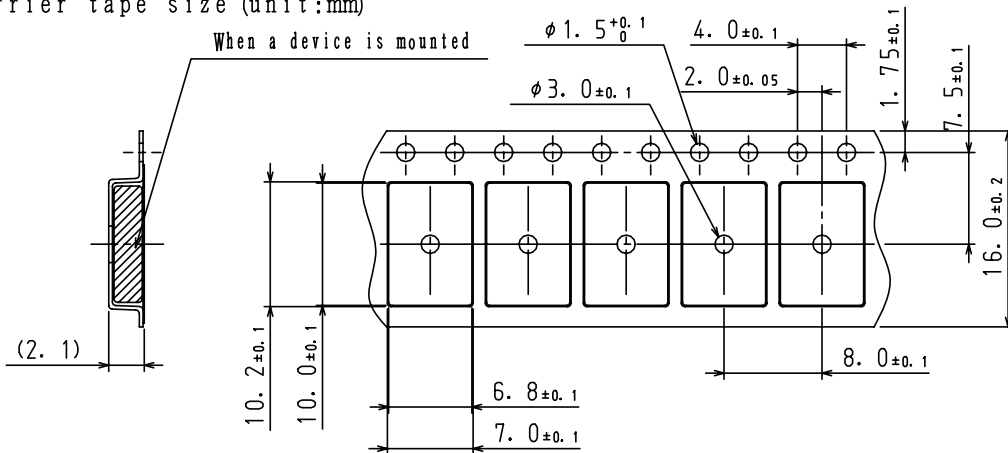
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

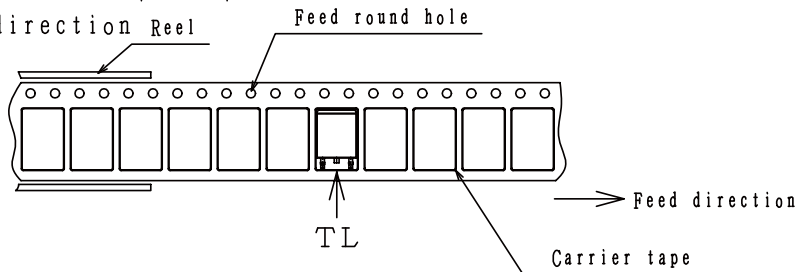
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction Reel

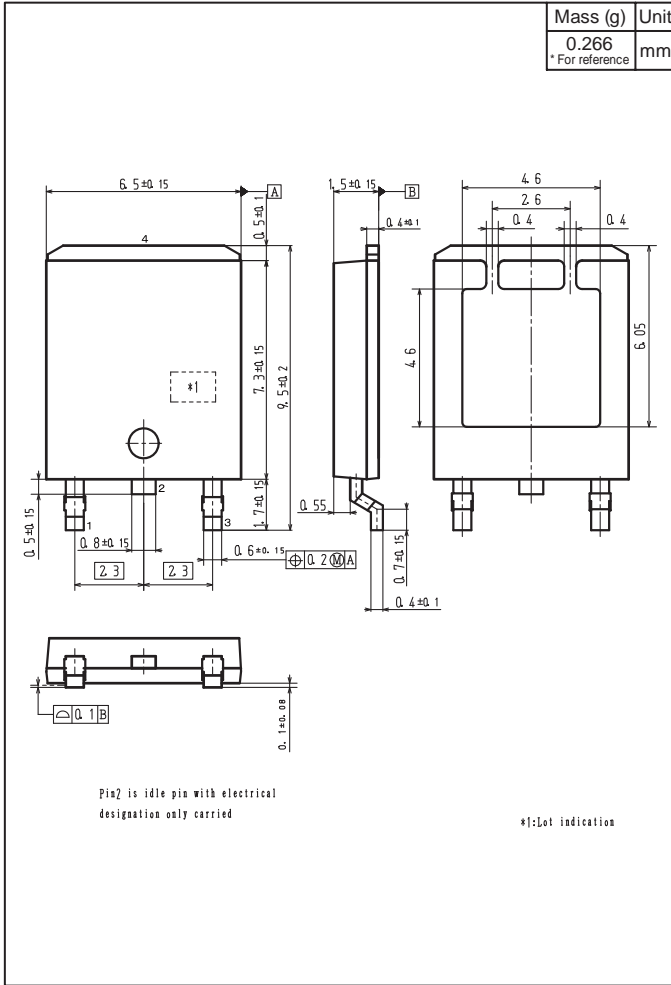


The one electrode terminals on feed hole side...TL

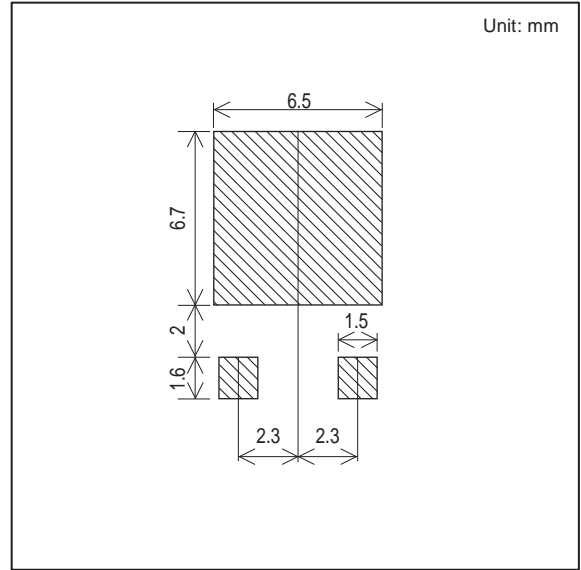
ATP106

Outline Drawing

ATP106-TL-H



Land Pattern Example



Note on usage : Since the ATP106 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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