Ordering number : ENA1543A

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

ATP602 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS}(on)$=2.1Ω (typ.)
- 10V drive
- Input capacitance Ciss=350pF (typ.)
- Halogen free compliance

Specifications

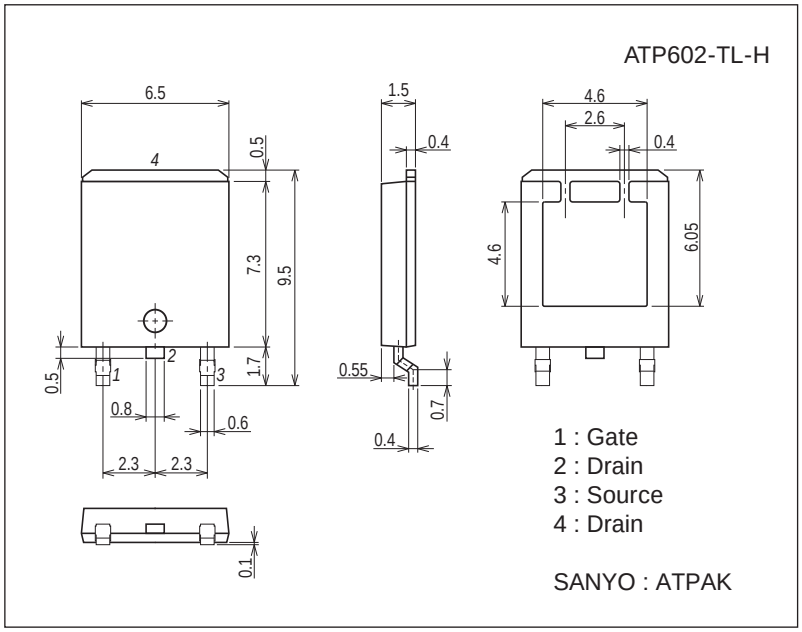
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	15	A
Allowable Power Dissipation	P_D	Tc=25°C	70	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *1	E_{AS}		74	mJ
Avalanche Current *2	I_{AV}		5	A

Note :*1 V_{DD}=99V, L=5mH, I_{AV}=5A (Fig.1)
*2 L≤5mH, Single pulse

Package Dimensions

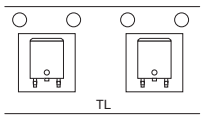
unit : mm (typ)
7057-001



Product & Package Information

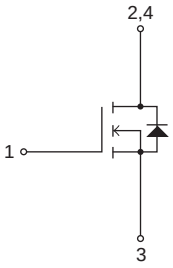
- Package : ATPAK
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

Packing Type: TL



Marking

Electrical Connection



Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0V	600			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=480V, V_{GS}=0V			100	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0V			±100	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1mA	3		5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=2.5A	1.5	2.9		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)	I_D=2.5A, V_{GS}=10V		2.1	2.7	Ω
Input Capacitance	Ciss	V_{DS}=30V, f=1MHz		350		pF
Output Capacitance	Coss			68		pF
Reverse Transfer Capacitance	Crss			15		pF
Turn-ON Delay Time	t_d(on)	See Fig.2		14.2		ns
Rise Time	t_r			37.4		ns
Turn-OFF Delay Time	t_d(off)			36.2		ns
Fall Time	t_f			20.4		ns
Total Gate Charge	Qg	V_{DS}=200V, V_{GS}=10V, I_D=5A		13.6		nC
Gate-to-Source Charge	Qgs			3.4		nC
Gate-to-Drain “Miller” Charge	Qgd			7.2		nC
Diode Forward Voltage	V_{SD}	I_S=5A, V_{GS}=0V		0.9	1.2	V

Fig.1 Avalanche Resistance Test Circuit

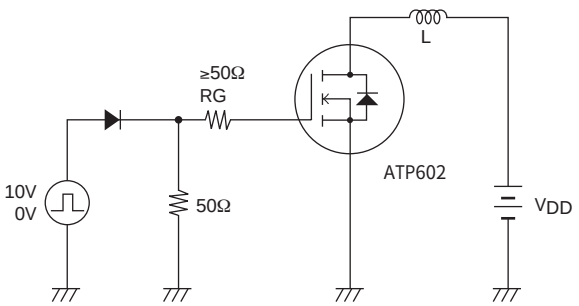
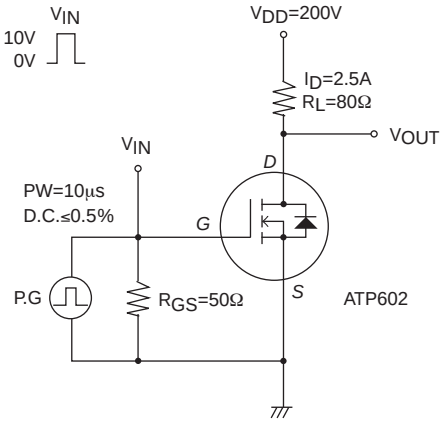
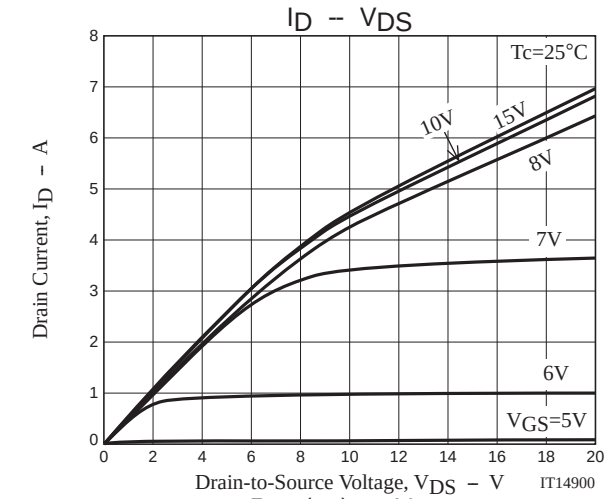


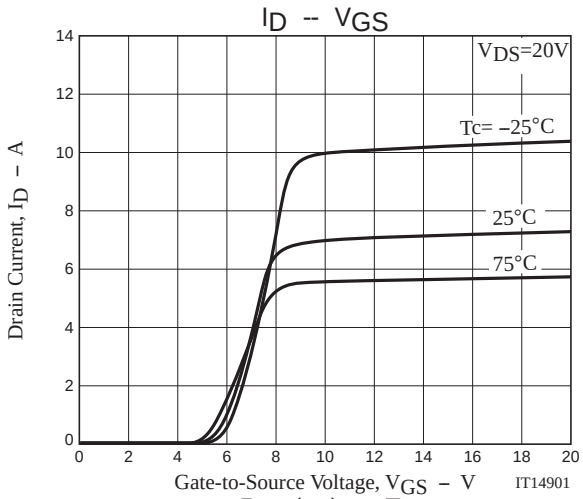
Fig.2 Switching Time Test Circuit

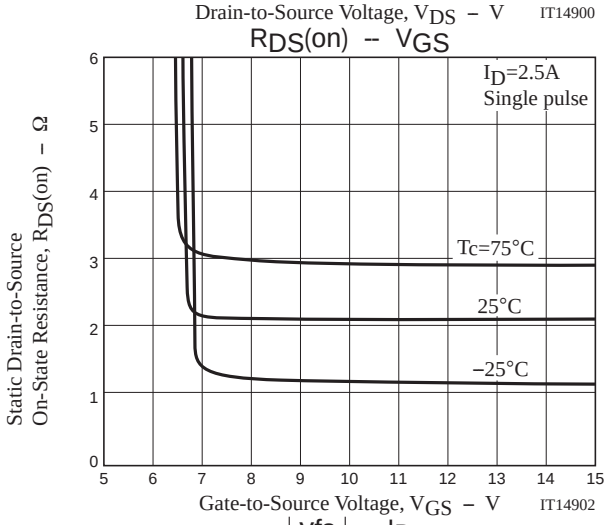


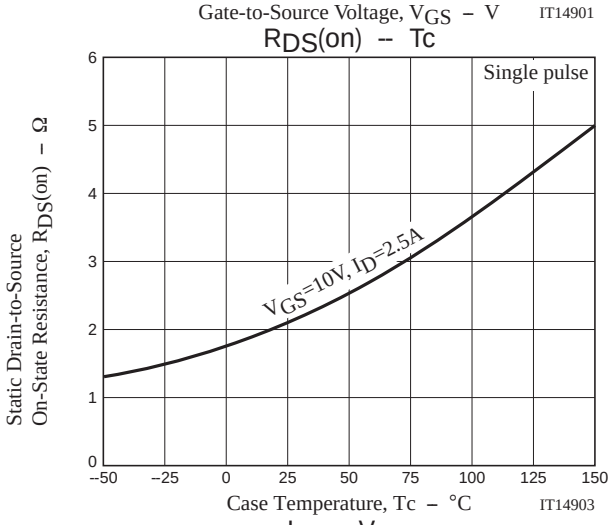
Ordering Information

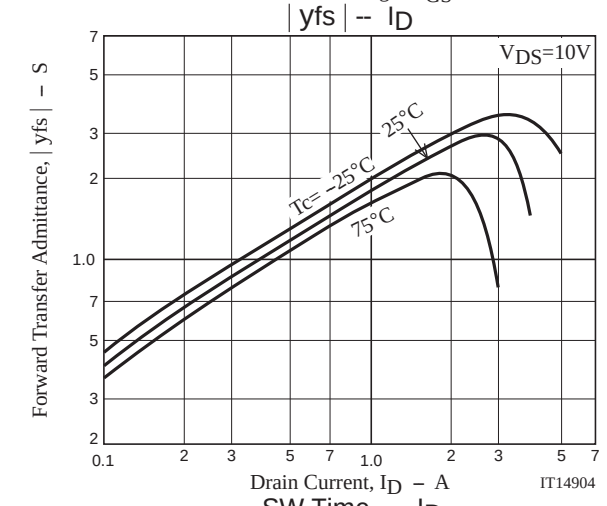
Device	Package	Shipping	memo
ATP602-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free

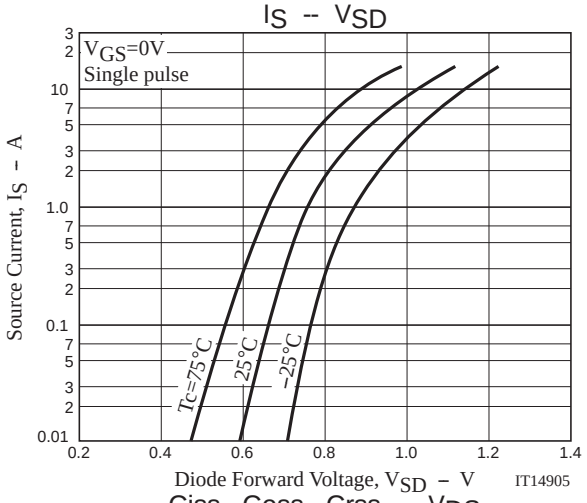


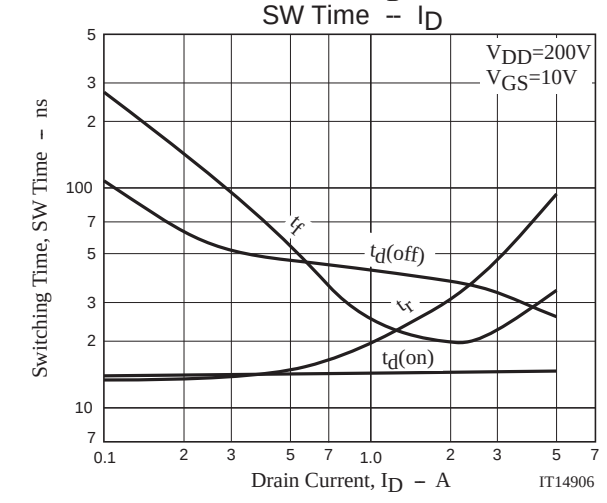


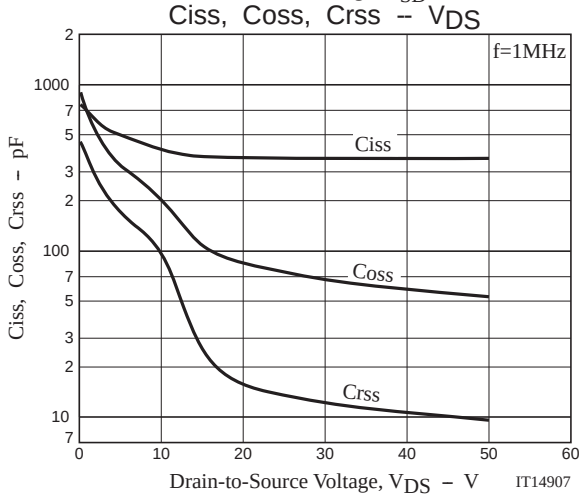


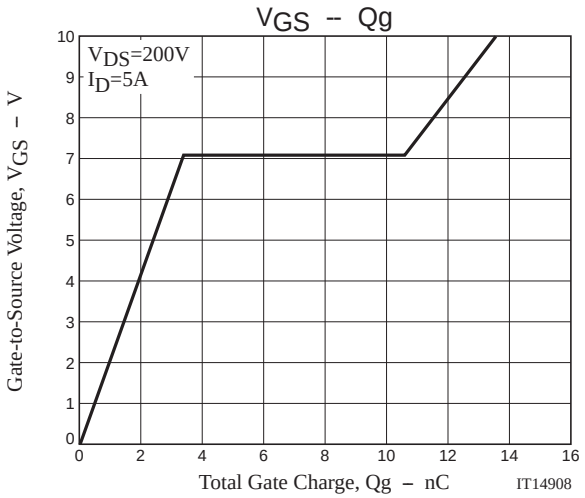


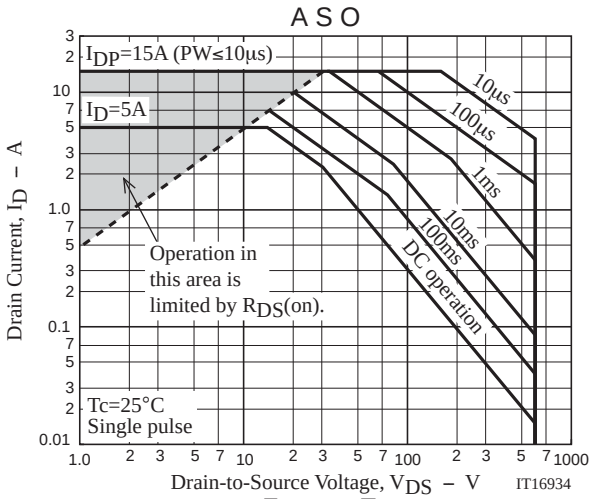


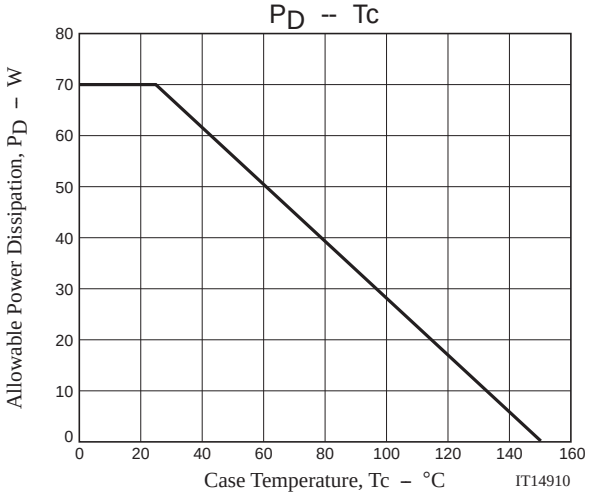


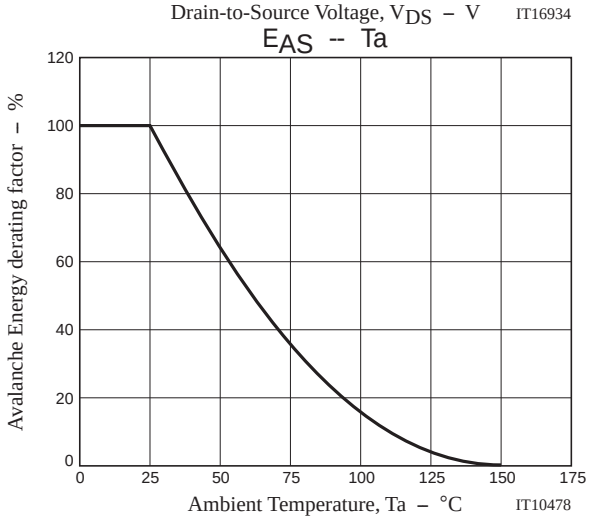












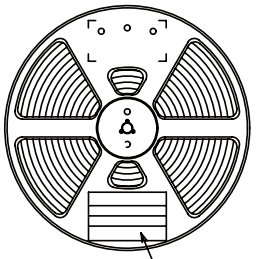
Taping Specification

ATP602-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

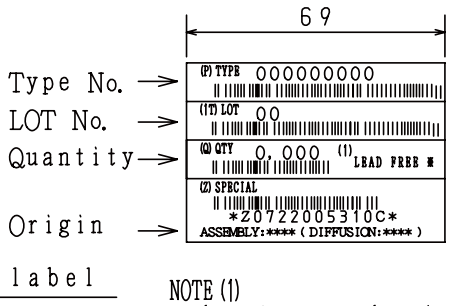
Packing method



Reel label

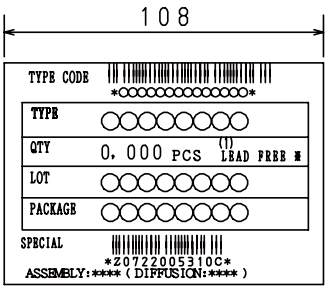
Reel label, Inner box label

(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.



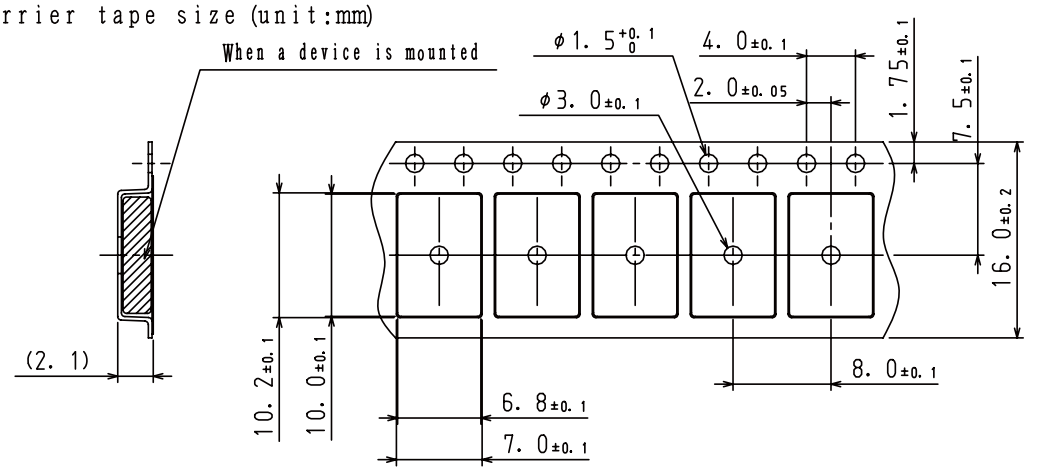
NOTE (1)

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

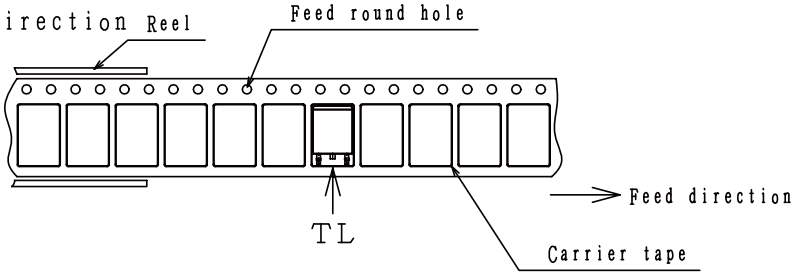
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



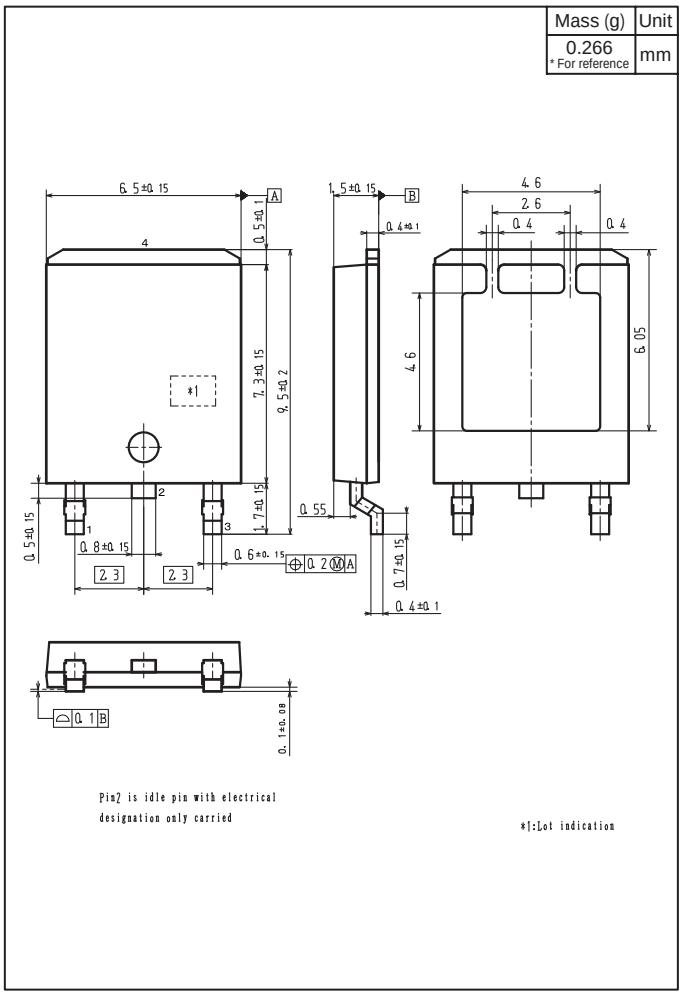
2-2. Device placement direction



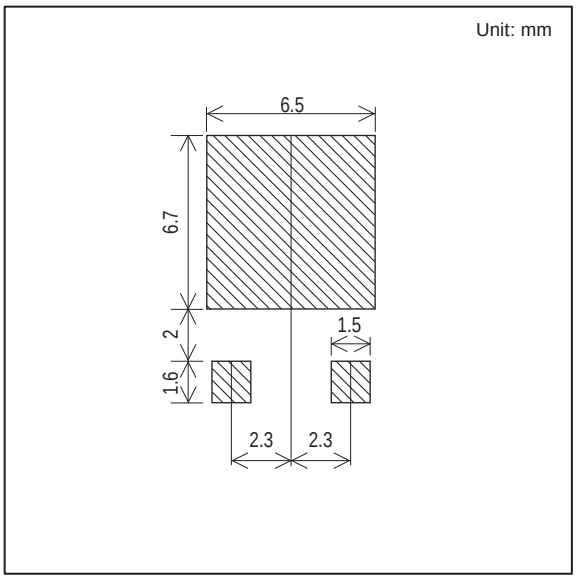
The one erectrode terminals on feed hole side····TL

Outline Drawing

ATP602-TL-H



Land Pattern Example



Note on usage : Since the ATP602 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of June, 2012. Specifications and information herein are subject to change without notice.